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INSIDE DOPE

by GEORGE F. TAUBENECK

How Men Outsmart Themselves
When Were You Born?
The Nine Comes Up Quickly
Every 42 Months
What Causes These Movements?
Maybe the Sophisticates
Aren't So Smart, After All
Pray to the Sun
How Can We Harness
The Cycles?

How Men Outsmart Themselves

Men love to speculate. They buy property when it costs most (build a nest when twigs are hard to find) and then have to sell it when the bottom has dropped out of the market (fly away just before the egg produces offspring). This cycle of buy-high and sell-low seems to repeat itself *ad nauseum* wherever and whenever men and their judgments are involved.

During the 1930's, millions of dollars worth of real estate, and stocks and bonds—bought at 1928-29 market highs—were foreclosed or dumped. Will that pattern be repeated in the 1950's? We shall see.

Hotels, apartment houses, and office buildings traditionally are erected when materials and labor are extravagantly priced. Usually these skyscrapers and structural behemoths must "go through the wringer" two or three times before their successively reduced capital valuation can be supported by their income. And, when we interpret statistics on booms and busts in the construction industry in the light of cyclical knowledge, it's plain to see that optimism and pessimism cross curves regularly every 18 years in this up-and-down business. The pessimists buy the holdings of the optimists then (and for a "song," usually).

This 18-year cycle, as it relates to construction and real estate prices, is one of the best-proved-by-statistics of all the economic rhythms which the High Priests of Cycles have recorded. Neither wars, depressions, nor flood waters and drouths seem to alter it.

For instance, shortly after F. D. Roosevelt entered a confused and bewildered American scene on a plumed white charger in 1933, he announced that he would save America by authorizing a greater volume of public works than the people of our nation had ever imagined could be put up, previously.

But, as the graph-making historians look back upon it, Roosevelt's WPA and PWA construction curve-bulges would have happened anyway. The public buildings, private housing projects, dams, bridges and roads financed by the government in *toto* during this "New Deal" period corresponded almost exactly to the amount of construction which was due to occur in that period according to a projection of the historical 18-year curve of the building industries.

Evaluators of historical patterns thereupon insist that the interference of government—no matter how well-intentioned—cannot upset or alter the normal rhythms of human activity. This is bad news to those vehement supporters of the theory that any all-powerful government, through its sponsorship and manipulation of a "planned economy," can prevent or circumvent the natural working-out of a predestined boom-and-bust cycle.

When Were You Born?

Nevertheless, aid-and-comfort to the proponents of the free enterprise system are not always presented on a silver platter by the cyclical engineers. For instance:

As it may seem, your opportunity

2 Plans Offered For Building Loans On Locker Plants

OMAHA, Neb.—Financing of locker plant construction—chief concern of the Frozen Food Locker Institute at its recent annual meeting—can be handled at present by two plans, the institute has announced through R. R. Farquhar, executive director.

One plan involves an unnamed Chicago financial organization while the other is the Reconstruction Finance Corp. plan of working either through banks or directly with the locker operator.

The Chicago organization, according to Mr. Farquhar, has unlimited funds which it will loan under the following terms:

1. Down payment of 50%, balance payable in five years with balloon notes at the end of each year coinciding with the locker rental renewal date; interest rate 6% per annum; no holdback; no contractor recourse after 12 months.
2. Down payment of 33 1/3%; balance

(Concluded on Page 29, Column 2)

Freezer 'Dumping' Not General Now

NEW YORK CITY—If there are "distress" sales of home freezers in the New York metropolitan area they are on a "spotty" scale, and there is very little evidence of it in the bigger appliance outlets, a checkup last week revealed.

Trade rumors and some reports published in the business sections of newspapers had described the situation, one report stating that an "inexperienced" manufacturer in the field was seeking to "unload" 500 units ranging up to 20 cu. ft. of capacity "at a fraction of the retail price."

A manager of the appliance department in one of the major stores said that there had been some price reductions in freezers, but not on the scale indicated.

"We found that price reductions properly publicized can stimulate freezer sales," he declared. "When we made a substantial reduction on one of the larger models we carry, we moved them pretty rapidly.

"What this seems to indicate is that there is a price for freezers at which the demand turns into buying action."

Schaefer Plans Quick Return to Production Following Plant Fire

MINNEAPOLIS—Fire damaged the plant of Schaefer, Inc., manufacturer of ice cream cabinets, frozen food cabinets, and home freezers here early Friday, Oct. 17. Starting on the top floor, the blaze brought a full complement of fire apparatus quickly to the scene.

The fire seriously damaged the third floor of the plant. There was some water damage to the lower floors, but machinery is in fairly good condition and can be placed in operation almost immediately. Fast work by the Minneapolis fire department prevented the plant from being a total loss.

Schaefer personnel went to work immediately after the blaze had been extinguished and were able by Monday morning to have the entire general offices operating normally. Telephone and telegraph repairs, together with emergency lighting, were effected within 24 hours.

Harold L. Schaefer, president, states that production will be started almost at once and will be quickly stepped up at an accelerated pace until it reaches normal so that shipment of customer's orders will suffer very little delay.

'Tie-In' Sales Of Slow Items Irks Dealers

NEW YORK CITY—Tie-in deliveries involving quick-selling refrigerators and slow-moving radios and other appliances are being forced on small dealers by two factory branches here, according to a distributor quoted in a local newspaper.

This distributor also reportedly said that the practice is being carried on with the "knowledge and blessing" of the producers involved.

This charge of tie-in sales was confirmed by dealers in the area, who declared that tie-in deals have recently been increased in volume by some independent distributors, according to the newspaper account.

One dealer went on to say that a factory branch representative had told him that he would soon receive such large shipments of slow-moving items he wouldn't have enough room in his store to handle items of other manufacturers.

In an effort to end the tie-in practice, one large distributor here has reportedly dropped the entire line of a major producer of refrigerators and radios.

Other reasons were important in the decision to drop this line, but the tie-in dealers were a major factor, an executive of the firm told the newspaper.

Tie-in sales have also worked to the disadvantage of large retail chains, according to one executive, who says that larger numbers of refrigerators are going to small stores who also accept off-brand radio and traffic appliances.

This view, however, was not supported by other large retailers, it was stated.

What's Being Done About 'Gray Markets'?

Manufacturers Attempt To Trace Sources by Serial Number Check

By George M. Hanning

DETROIT—What are manufacturers and distributors doing to dry up the flood of electrical appliances flowing into the South through unauthorized channels?

Not much, they admit.

The only effective way to stop gray market operations is to send more merchandise into the South through normal distribution channels, they agree.

This will come, they say, with continued high production. But now manufacturers cannot send more merchandise to the South without taking it away from some other section. And that, they are unwilling to do.

Distributors, who are continually besieged with complaints from their dealers, do what they can to provide manufacturers with serial numbers taken from merchandise sold by unfranchised dealers.

When such numbers have not been removed from the appliance altogether, they get them either by "shopping" the unfranchised dealer or from the customer who calls on a franchised dealer for warranty service.

With these numbers, the manufacturer can tell who sold the appliances originally.

Sometimes he finds that the "culprits" are small town dealers. One manufacturer recently traced serial numbers of appliances that had presumably been in a single shipment and found that the appliances originated with dealers scattered throughout the New England states.

These, the spokesman for the manufacturer stated, were picked up individually by truck, warehoused in

(Concluded on Page 4, Column 3)

Most Popular Editorials Now Available In New Booklet

In response to a continuing demand from many subscribers, the most-requested editorials and "Inside Dope" columns which have appeared in Air Conditioning & Refrigeration News during the last year have been collected in a handsome 62-page booklet entitled: "World War III?" Most of these editorials and columns are devoted to the Free Enterprise System, and to rational and international affairs.

Printed in large, easy-to-read type on high-quality paper, this booklet is offered to subscribers of the News at the nominal rate of 35 cents per copy. In quantities of 50 or more, the price is 25 cents per copy. First come, first served—the supply is limited.

20% Down, 36 Mos. Planned By Credit Co.

DETROIT—One of the country's largest finance companies has indicated that it will relax credit terms on refrigerators, washers, and other appliances to 20% down payment and 36 months for the balance after federal controls end Nov. 1.

Regulation W, which expires at midnight of that day, has required 33 1/3% in down payment and 15-month terms.

Although the Federal Reserve Board, which administered Regulation W, says it expects a heavy increase in credit purchases after controls end, many financial authorities believe that the chief advantage to businessmen will be the smaller down payment, rather than the lengthened period of payment.

Bankers Advise Terms Of \$15 or 25% Down

WASHINGTON, D. C.—Credit terms of a minimum down payment of \$15 and 18 months to pay or 25% or more down and 24 months were recommended to its members by Consumers Banking Association for most major household appliances.

The national association urged these terms for refrigerators, freezers, water heaters, cooking ranges, dishwashers and disposal units, and automatic washers when Regulation W expires at midnight Nov. 1.

It suggested \$15 and 15 months or 25% or more and 24 months on non-automatic washing machines, and \$15 and 12 months or 25% or more and 15 months on vacuum cleaners.

These other recommendations went out to member banks:

1. That a fixed permissible installation charge, to be financed along with the appliance, be agreed upon. Where the charge seems excessive in view of local conditions, the excess be added to the amount of the down payment required.

2. That \$5 per transaction be charged, or 60 cents per payment, whichever is higher, so credit business can be handled on even a break-even basis.

In making the recommendations, the association advised members to operate on a sound, conservative basis.

"We definitely do not want to be a party to 'nothing down' sales financing no matter how strong the dealer's financial responsibility may be," the association declared.

Members were also cautioned to "know your dealer." The dealer is particularly important where installation is involved, as in the case of dishwashers, ranges, washing machines, and television sets, the association stressed.

Smith Represents Recold Line In East, Midwest

LOS ANGELES—Appointment of Sterling F. Smith as direct factory representative in the eastern and midwestern states for Refrigeration Engineering, Inc. here has been announced by Hy Jarvis, vice president and general manager of the firm.

Mr. Jarvis stated that he made the appointment following an extended trip through the major trading centers of the country analyzing the market for his company's products.

Mr. Smith, who was formerly general sales manager for Baker Ice Machine Co. now operates his own company, Sterling Refrigeration Products, in Washington, D. C. He will direct the sales and distribution

(Concluded on Page 29, Column 1)

Safety Lock Lets Cooler Door Open from Inside

PALESTINE, Tex.—L. C. Clair, an electrician for a local oil company, has invented a lock for locker plants and other low-temperature rooms which is said to enable opening of doors from the inside.

The device consists of a brass chamber lock with a spring-operated smaller chamber inside. The outer chamber serves as the door lock, using a bolt and padlock as on the conventional latch, but the interior chamber has a rod-operated trigger which will unlock the door from the inside only, it is claimed.

Mr. Clair, whose wife Ruth, is manager of the Palestine Consolidated Frozen Food Locker Plant here, has been asked to demonstrate the safety lock release before the National Board of Underwriters, it is said.

Bids Asked on Additional Hospital Refrigeration

WASHINGTON, D. C.—Nov. 18 has been set as the deadline for sealed bids on alterations to the Veterans Administration's tuberculosis hospital at Livermore, Calif., J. J. Rockefeller, director of the VA construction service, has announced.

The planned alterations include modernization of the kitchen, installation of additional refrigeration, and the construction of a new bakery.

Bids will be opened at the VA central office here on the deadline date, he stated.

Bigger Educational Program for Chapters, Individual Members Mapped by RSES Board

CHICAGO—Meeting in Chicago, earlier this month, the officers and board of directors of the International Refrigeration Service Engineers Society spent three full days discussing ways and means of expanding the Society's services to its members and laying plans for its future activities.

Among major considerations discussed were plans for an expanded educational program pointed to chapters and individual members. Much of the educational program will revolve around the compilation of the All-Makes Service Manual.

The compilation of this manual will represent years of activity, but when completed will represent a valuable contribution to the literature on refrigeration, the Society believes.

One session of the directors meeting was devoted to a joint discussion with a committee of the Refrigeration Equipment Manufacturers Association, consisting of H. F. Spoehrer, K. B. Thorndike, and J. A. Strachan, to consider the advisability of conducting jointly educational conferences in off years in which the All-Industry Air Conditioning and Refrigeration Exposition is held. These conferences would bring to different sections of the country an educational exhibit manned by service and engineering personnel. Committees of both associations, following these preliminary discussions, are to meet again to explore its further possibilities.

Revisions to the constitution and by-laws were discussed by the directors to provide additional revenue for the educational program and increased representation on the board because of the expansion of the Society.

It was disclosed in a report on membership that at the close of the fiscal year ending June 30, 1947, the total membership of the Society was 10,610.

Plans were discussed for the forthcoming 10th Annual Convention of the Society in Cleveland Jan. 21-24, at which the Buckeye State Association will act as hosts for the meeting.

Representatives at the meeting

were the following: W. W. Allison, president, Los Angeles; W. Marshall, first vice president, Toronto; Chas. C. E. Harris, second vice president, Cambridge, Mass.; C. J. Doyle, treasurer, Omaha, Neb.; H. T. McDermott, secretary; J. L. Driskell, sergeant-at-arms, Burley, Idaho.

Directors W. E. Booth, Richmond, Va.; C. S. Tucker, Birmingham, Ala.; A. L. Robertson, Madison, Wis.; O. C. Yates, Seattle, Wash.; Earl Yockey, Columbus, Ohio; Napoleon Brossot, Verdun, Que.

Board of Advisors: J. M. Manley, Alabama; A. J. Pike, Interprovincial Association; J. Sackey, Illinois; G. Schuld, Buckeye State; W. M. Tierney, New England States; W. Bullis, Wisconsin.

Past Presidents W. H. Moss, Memphis, and C. Buschhoff, Beaver Dam, Wis.; and Paul B. Reed, chairman of the Educational and Examining Board.

Hussmann Net Profit Tops \$1 Million for 9 Months

ST. LOUIS—Hussmann Refrigerator Co.'s net profit for the nine months ended Sept. 30 was more than double that for the same period during 1946, a company report shows.

Hussmann announced a net profit after charges and taxes of \$1,185,250 for the 1947 period, compared with \$547,290 for the 1946 period. Comparative sales totals were \$11,813,832 for this year's span and \$6,347,477 for last year's.

The company said the 1947 nine-month profit is equal to \$2.94 per common share, compared with \$1.28 for the corresponding period last year.

Net profit for the quarter ended Sept. 30 was \$309,938, equal after deduction of dividends on preferred stock to 76 cents per common share outstanding at the close of the period. Net profit for the same quarter of 1946 was \$242,428. Sales for this year's quarter totaled \$3,599,394 compared with \$2,608,695 for the comparable quarter last year.

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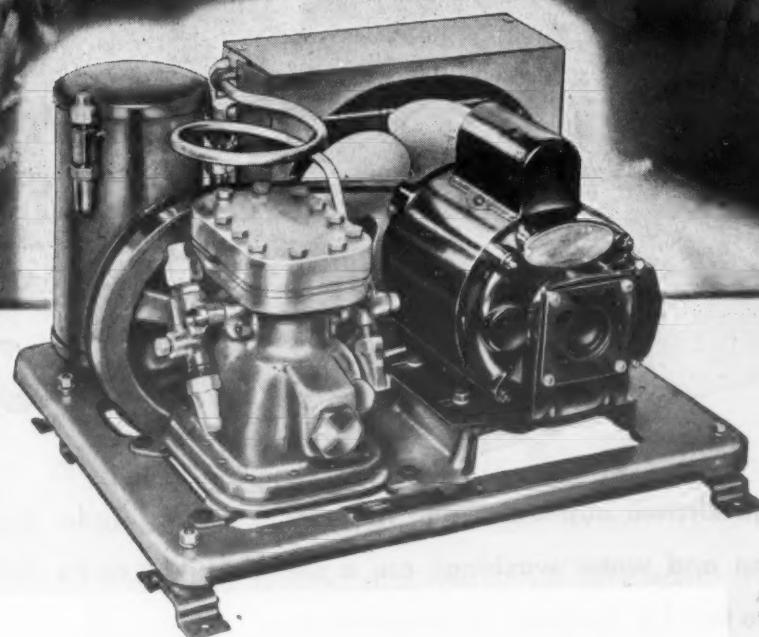
Cure for the shakes



Users report that Jack & Heintz

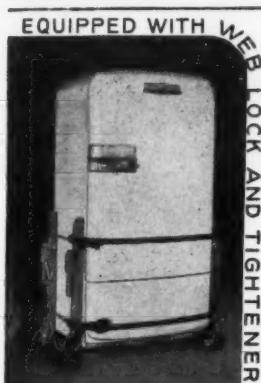
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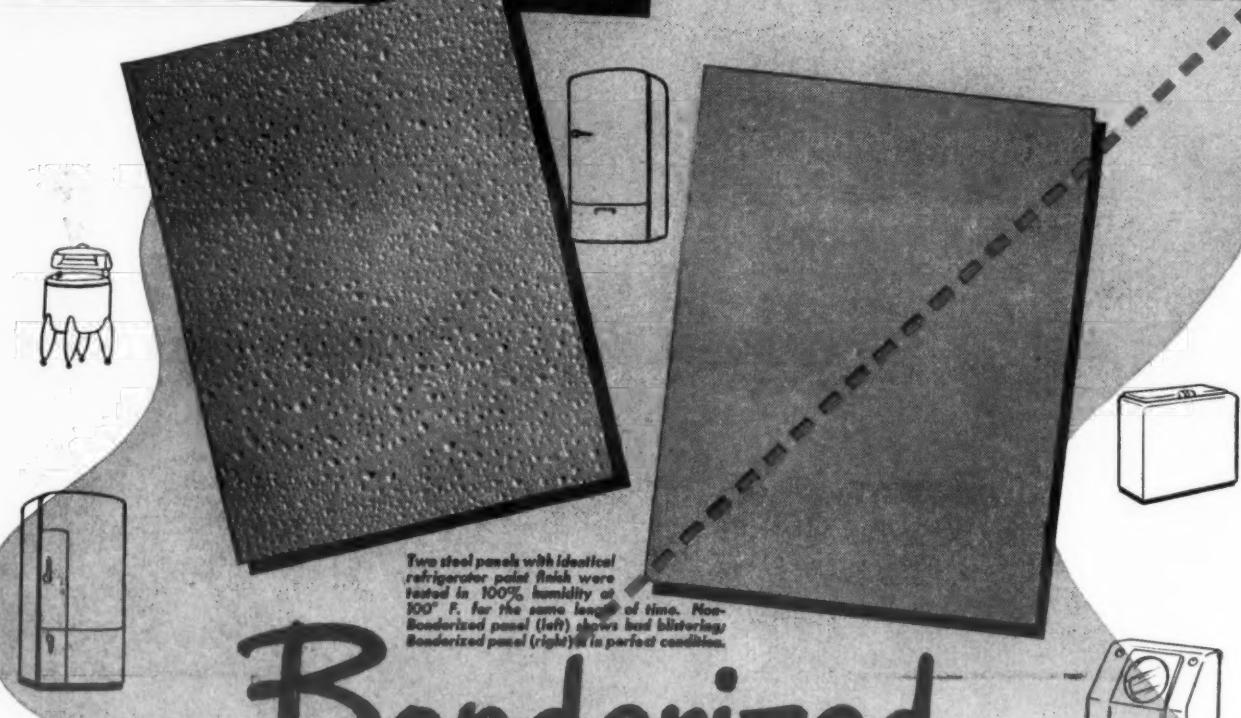
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SHOWS WHY BEST APPLIANCES ARE



Two steel panels with identical refrigerator paint finish were tested in 100% humidity at 100° F. for the same length of time. Non-Bonderized panel (left) shows bad blistering; Bonderized panel (right) is in perfect condition.

Bonderized

High kitchen humidities and frequent soap and water washings are a severe test for the finish of refrigerators, steel cabinets, and other kitchen appliances. Only protected finishes can withstand them.

Home appliance customers demand and get those lasting fine finishes in Bonderized home appliances. For Bond-

erizing under the paint is assurance of long and satisfactory service.

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lasting fine appearance.

Use this sales feature when you show a Bonderized appliance. You'll find it's effective!



PARKER RUST PROOF COMPANY, 2170 East Milwaukee Ave., Detroit 11, Michigan

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Holds Paint to Metal

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PARKERIZING
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PARKER PROCESSES

PARCO LUBRIZING
Retards Wear on Friction Surfaces

Bonderite, Parco, Parco Lubrite—Reg. U. S. Pat. Off.

What's Being Done About 'Gray Markets'?

(Concluded from Page 1, Column 3)
one spot by a middleman, and later shipped South.

In another instance, it was found that a dealer had sold appliances to a building contractor who bought merchandise on the basis of need to complete a building project. The building contractor then shipped the appliances to Florida, where gray marketing is said to be rampant.

In yet another instance, a Chicago apartment house operator, who normally purchased appliances in fairly large quantities direct from several manufacturers, diverted them to Florida markets.

In all these instances, manufacturers say they are up against a blank wall. The purchaser of the appliance, with the help of a lawyer, is quick to point out that he purchased outright title to the appliance and he can do whatever he pleases with it. He could build a bonfire in the middle of the street with it and the manufacturer couldn't say "Boo."

In some cases, however, investigation has led to the disfranchisement of an offending dealer. In others it has brought warnings to the dealer that if it happens again he will not get any more merchandise from that manufacturer.

NO CENTRAL SOURCE

Some distributors and manufacturer's representatives are of the opinion that this "gray market" is hard to break because there is no large central source of supply. The appliances are apparently coming from widely scattered sources, picked up one at a time.

As one manufacturer's representative put it, it is the small dealer in the North hurting the small dealer in the South.

In some specific cases, the manufacturers have tried to dry up the gray market in selected spots by shipping carloads of merchandise into a city and selling them through legitimate dealers.

This has had a temporary beneficial effect. But the merchandise had to be taken from the allotment of one distributor in order to give it to another. It also antagonized dealers who were suffering just as badly from gray marketing but who could not be allotted more appliances.

Distributors, in addition to providing serial numbers and other evidences of their products going astray, have dinned into the ears of factory sales managers the story of the tremendous market that lies in the postwar South.

They shower the manufacturer with statistics and try to picture the meaning of them with pertinent stories.

THE BIG DEMAND IN FLORIDA

C. R. Brogan, Kelvinator zone manager in Atlanta, enthused about the South as a young man's country. He said that he has brought factory representatives down into his territory, Florida especially, and attempted to show them what was going on down there. But even after they had seen it, they couldn't believe it.

He said that he had driven one factory representative around Miami all day once just showing him new construction. He pointed out that it is hard to believe that Miami is going to be a city of a million people when someone baldly tells you that.

Yet Miami is planning on it and is building accordingly. The shore from Fort Lauderdale on south is being built up solid, he declared. And Fort Lauderdale is about 24 miles north of Miami proper.

Miami is allotted about 5% of the appliances going into the Southeast, Mr. Brogan pointed out. Actually she is getting between 7 and 9%. Yet Miami is still the hottest gray market spot in the South, he said. All of which goes to show that our figures on that market are completely inadequate, he concluded.

Burleigh Drummond, Westinghouse sales promotion manager at Atlanta, illustrated the greatly increased purchasing power of southern Negroes this way.

Before the war, he said, four or five members of a colored family would work to support that family and all together they would only make \$25 or \$30 per week.

Today they are each making that much or more. One south Georgia dealer reported that a colored customer walked into his store and pointed to a \$600 radio, tops in its line.

"I'll take that one," he said, pulling out a roll of bills from his pocket and peeling off the price of the radio.

"We had a good week this week," he explained.

"The average southern girl, 10 years ago," Mr. Drummond explained, "didn't know what was in her kitchen and didn't care. She never went into it. Even families making \$100 or \$125 per month could afford a good cook for \$5 per week."

"Today, however, that cheap Negro labor is gone. The little woman has to work in her own kitchen and she is demanding good electrical appliances."

W. D. McKay, Westinghouse distributor in Charlotte, N. C., related how his wife was the first on their street to hang her clothes out in the yard a few years ago. Such a thing was unheard of where the laundry could be sent out for trifling sums.

But today, every woman on the street does her own washing and hangs her clothes out. And all of them became prime customers for electric laundry equipment.

All distributors in telling the story of the new southern market concede that there has been little gain in population to speak of. The South still cannot compete with the North as a mass market.

But the South, they point out, has exceeded any other section of the country in raising the standard of living of the people so that they are now in the market for ranges, refrigerators, washers, and the whole line of home appliances.

What's more, electrification has advanced so rapidly during the years when appliances were unobtainable, and power is available at such cheap rates, thanks to the Tennessee Valley Authority and the work of private utilities, that the demand for appliances is doubly intensified.

WHAT UTILITY FIGURES SHOW

To back their story, distributors point out that almost 40% of the growth in utility central station customers from 1943 through 1946 has been in the South. This growth is measured both in customers and in generating capacity to serve these customers.

Fourteen representative utility companies have increased their number of domestic customers from 1,249,078 in 1941 to 1,664,751 in 1946, or a 33% increase. Of these customers, 440,400 now have 230 volt service, sufficient to carry a large number of appliances without rewiring.

In 1946, the TVA had 175,000 customers with 230 volt service.

The economy of the South is still basically dependent on agriculture and the southern metropolitan markets expand in direct ratio to the purchasing power of the agricultural dollar.

So distributors offer these figures on the cash farm income in the states of Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, West Virginia, Tennessee, Arkansas, Louisiana, Texas, and Oklahoma:

1946 cash farm income \$6,490,634,000
1940 cash farm income \$2,437,487,000
Gain over 1940 \$4,053,147,000

What's the answer? Everyone agrees: More merchandise!

GOVERNAIL

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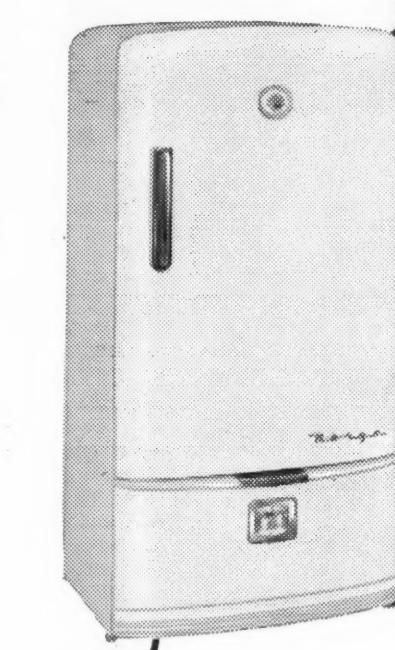
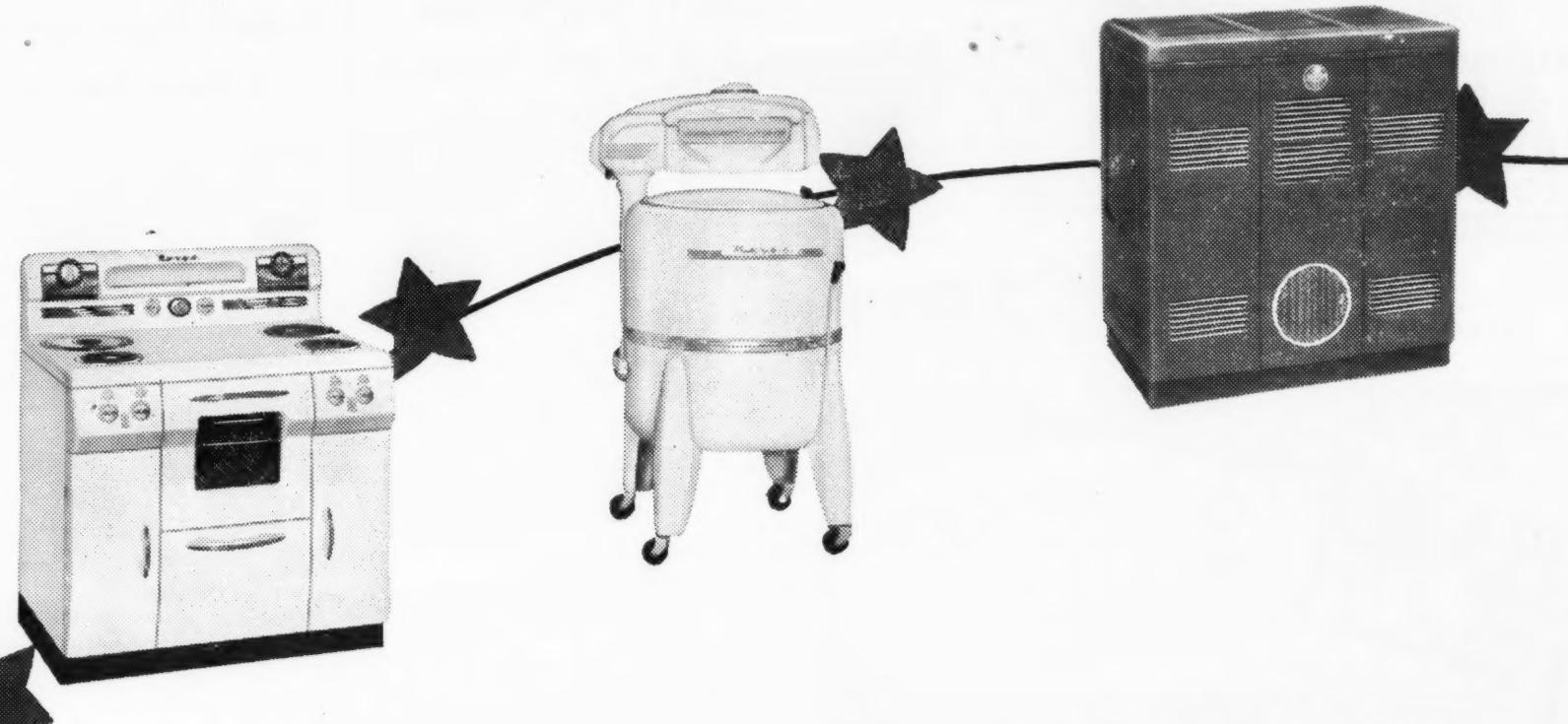
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Lakness

I. TALIS
Nov. 6—Alma and Norte have a streak of victories given to try harder than man who knows napping cancer.

is a complete mystery. From the 1st visit down to date he has all more than 15 years over the country are than ample press box seat everything on the field.

ACORN

is hired by and agent of automobile. Paid no more than 130 dollars a day of ever before has so important work may paint a Norge can

When I was a student was shining found on campus. Franklin than usual visitors by only group of New York here to see the wish until been watching—so after for in the power

Since he and Luis were the only accredited bantamweights on the lists of the Vicem, being competition, he has no more bantams left to conquer. Although Luis finally demanded a rematch

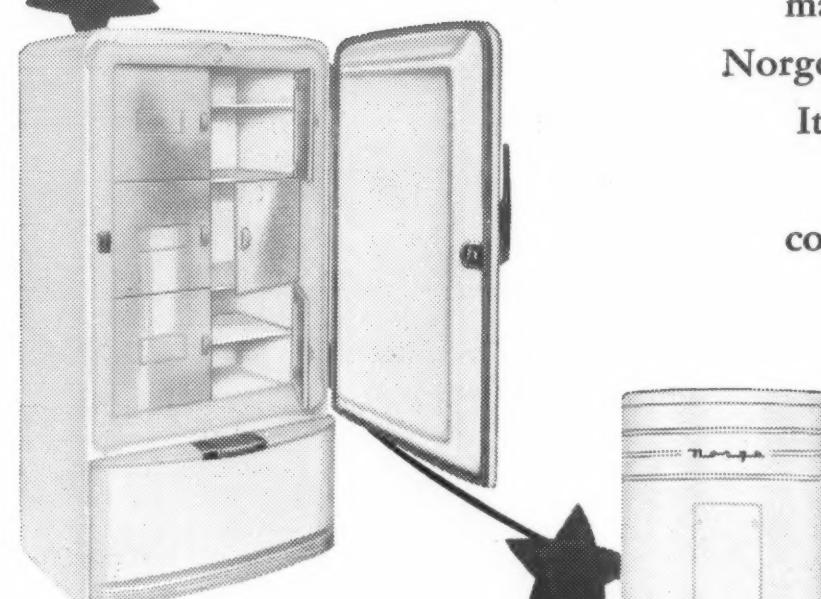
ing was on the Novice Super Con nine formed in Indianapolis a few months ago to reorganize the association could have caused a play off. Pairs' position for a long while. This is a sample of how American kids play it—out to win at all times, but out to win on the square.

New

By LDCA
LAST PIANO
athletic council College met yesterday and after out with a who ("hiss") not subject of the ICA right here. The university because of a rule in Bill to the could play no football week, a game left only its 347 plans to back down or off the traditions.

STATE'S
The answer to "Because of the registration caused by the thousands of Michigan State College in Oct. bidding the mid-football games between the U. prior to the quarter classes." It is now U. of M.'s a were unaware action and left available for the ball game with College in 1947. "The athletic will recommend the acceptance a date in 1947 the Dick with regular an

There are Seven Stars in the NORGE line, too!



Seven major appliances . . . each a big-ticket item—styled, engineered and priced to lead its field! Only Norge, among all manufacturers, can offer you an all-star line-up like this! But Norge's "Big Seven" is, above all, a smooth-working team. Its members work together to produce more initial sales—more tie-in sales—more repeat sales. It is the winning combination for retailers who think not only of present profits, but also of future growth! Norge Division, Borg-Warner Corporation, Detroit 26, Michigan.

In Canada: Addison Industries, Ltd., Toronto, Ont.

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Norge products, distributed worldwide, are typical examples of the values made possible by the American system of free enterprise.

HEAT TRANSFER EQUIPMENT
MARLO
COIL COMPANY
SAINT LOUIS, MISSOURI

Soda Fountain Makers
Meet Nov. 20 In N.Y.

NEW YORK CITY—The Soda Fountain Manufacturers Association will hold its annual meeting here Nov. 20.

Sanitation in the construction, installation, and operation of soda fountains will be one of the principal subjects discussed.

Arrangements have been made for prominent men in the sanitation field to address the meeting.

**Byron C. Foy Becomes
Jack & Heintz President**

NEW YORK CITY—Board of directors of Jack & Heintz Precision Industries, Inc. has elected Byron C. Foy, chairman of the board, to be president of the company.

William S. Jack, former president, was not a candidate for re-election at the annual meeting of stockholders in May, 1947, when directors for the coming year were elected.

Mr. Foy, who will continue to serve as chairman of the board, announced at the meeting that the employment contract between Mr. Jack and the company had recently been cancelled by mutual consent.

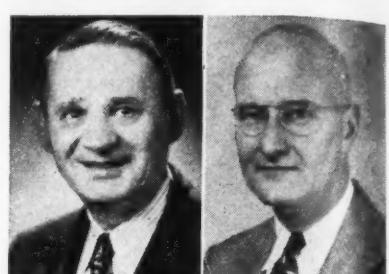
Polar Locker Service Enters
Wholesale Frozen Food Field

BUFFALO—Appointment of the Polar Locker Service, Inc., as western New York distributor of retail and institutional packages of frozen foods, has been announced by John H. Dulany & Son, Inc. of Fruitland, Md.

This is the local company's first move into the wholesale frozen foods field. Previously, it has been operating a retail frozen food business from its locker plant at 1660 Kenmore Ave., which will continue to operate.

Charles L. Beard, formerly vice president and treasurer of Bell Aircraft Corp., has become president of the Polar Locker Service. He said the expansion into the wholesale field has necessitated an increase in the company's employment. James J. Driscoll is vice president in charge of sales.

Baker Appointees



Roger Sprague Walton Woodroof

**St. Louis Office Opens;
Sprague and Woodroof
Named to Positions**

SOUTH WINDHAM, Me.—Opening of a St. Louis (Mo.) district office and appointment of Roger Sprague as manager were announced recently by Baker Ice Machine Co., Inc., here.

Baker also announced the appointment of Walton W. Woodroof, former general sales and advertising manager of Universal Lubricating Systems, Inc., Oakmont, Pa., as manager of distributor sales in the refrigeration and air conditioning fields.

The new office and shop in St. Louis is completely equipped to handle sales, engineering, contracting, and service throughout the area, according to Baker. It is located at 813-819 Hempstead St.

Mr. Sprague joined Baker in 1928, and for the past 12 years has worked on low-temperature applications for fruit and vegetable quick freezing.

The author of numerous articles which have appeared in trade magazines and newspapers in this country and abroad, Mr. Sprague is a member of the American Society of Refrigerating Engineers and a director of the Frozen Food Locker Institute.

Mr. Woodroof, who will make his headquarters at Baker's new plant in South Windham, was at one time with the American Radiator & Sanitary Corp.

**'Perfect' Toast May Sell
A Home Freezer**

CHICAGO—Frozen toast will sell home freezers.

Here's how the Harry Alter Co. here, distributor of Crosley Frostmaster freezers, would have its dealers work it:

Keep a loaf of frozen white bread in a freezer displayed on the sales floor. Have a pop-up toaster atop the freezer.

When a customer comes in, escort her over to the freezer. Take out a slice of frozen bread and tap it on the toaster to show her how hard it is.

Give it to the customer and have her insert it in the toaster. Switch on the toaster, and, claims Mr. Alter, "the toast comes out just perfect—so perfect the lady will hardly believe it."

"That is the way to dramatize the advantages of a home freezer," advises the distributor, "and housekeepers who see these things with their own eyes become converts."

**U.S. To Study Cooperative
F.F. Merchandising Problems**

WASHINGTON, D. C.—Methods of merchandising and distributing canned and frozen fruits and vegetables by cooperatives will be studied in a project just approved under the Research and Marketing Act of 1946, the U. S. Department of Agriculture has announced.

The study will include an examination of packaging, storing, financing, transporting, advertising, pricing, and selling practices to see if wastes in distribution can be reduced and markets expanded. Trade preferences for kinds, varieties, and grades of various products processed by cooperatives will be studied to see what, if any, improvements should be made.

Actual case studies will be made of about 50 cooperative plants by the Cooperative Research and Service Div. of Farm Credit Administration.

Helpful...

You will find the CHASE catalog helpful in many ways. Saves time—places useful buying information at your finger tips—and carries list prices to protect your profits.

Send for copy on your letterhead.

CHASE REFRIGERATION SUPPLY CO.
546 West 119th Street Chicago 28, Ill.

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HASCO
now makes suction and discharge valve reeds for leading makes of Hermetic units. Look to Hasco for the best in both conventional and hermetic type compressor parts.

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HASCO, INC.
GREENSBORO, N. C.

TYLER AGENTS know that helping them sell is a major Tyler policy of long standing. Two great lines of commercial refrigerators and display cases, and HARDER-Freez Home, Farm and Food Freezers give Tyler Agents and Sub-Agents as steady, dependable and worth-while sales possibilities as can be found in the refrigeration field. Constant improvements, frequent additions to the line mean new opportunities for you.

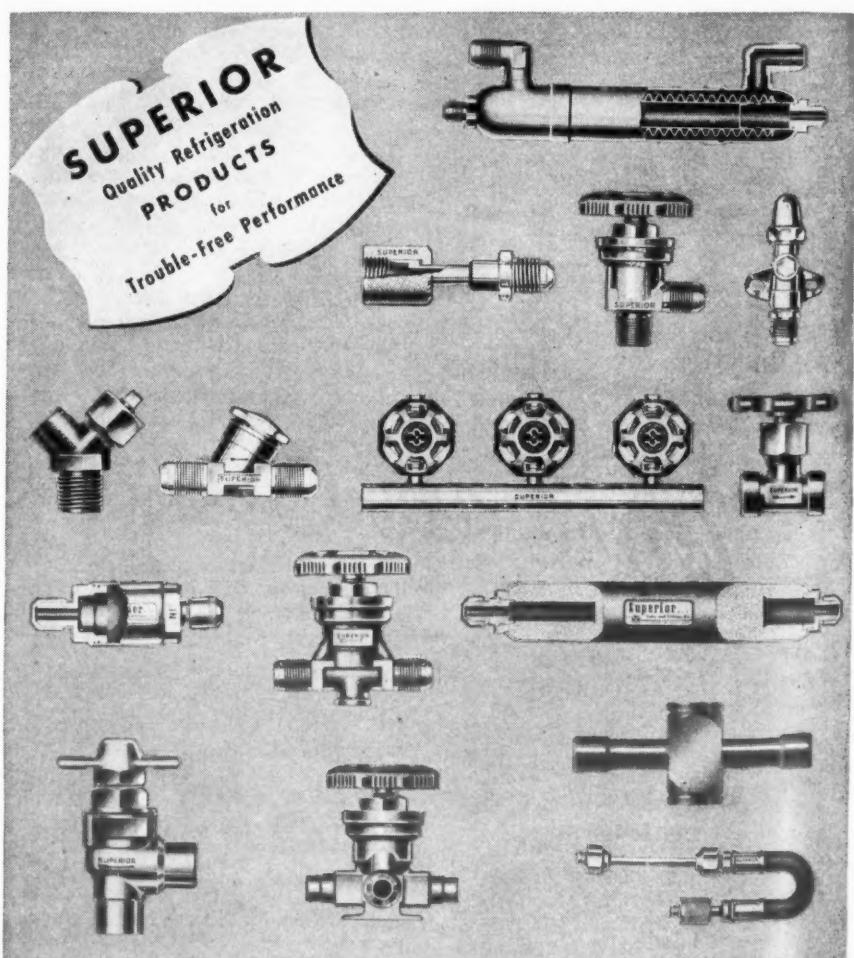
Strong national magazine and trade paper advertising keeps the Tyler name before millions. Complete sales helps and Store Planning assistance help on the local level. And last but not least, an alert and cooperative sales staff means the kind of service that helps you sell!

TYLER FIXTURE CORP., NILES, MICH.

TWO GREAT LINES

Open Meat and Dairy Case
Sectional Walk-In Cooler
Dry-Kold Beverage Cooler
Reach-In Box
Wall Dairy Box
Frozen Foods Display Case
HARDER-Freez Home and Farm Freezers
18 cu. ft. Upright
24 cu. ft. Chest
9 cu. ft. Upright
12 cu. ft. Chest
Center Aisle Type
Wall Type
Utility Freezers for commercial use in sale of frozen foods, ice cream, etc.
Chest Type

IT'S TYLER
FOR FOOD
REFRIGERATION



**Designed and Engineered
for Maximum Performance...**

In all refrigeration and air-conditioning systems, the SUPERIOR line includes the famous Diaphragm Packless Line valves; globe, charging, purging or drain valves; hand expansion valves; pressure cup (wing cap) globe valves; packed line, angle, compressor and cylinder valves; check valves; liquid indicators and sight glasses; quick couplers; gauge manifolds; economizers (heat-exchangers) and manifolds; dehydrators and filters; rapid-chargers (refrigerant transfer systems); charging hose; and SAE flare fittings.

If you haven't a copy of SUPERIOR Catalog R-2, request one today

Superior Valve and Fittings Co. 

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OFFICES IN PRINCIPAL CITIES STOCKS CHICAGO (6) LOS ANGELES (15) JOBBERS EVERYWHERE

IF HIGHER PRICES COME, AS MANY PREDICT,
WHAT WILL BE THE EFFECT ON DEALER AND CUSTOMER
PURCHASING POWER? PRICE WILL BE NO DETERRENT,
WE BELIEVE, WHEN AMPLE CREDIT CAN BE MADE
AVAILABLE. AND PROFIT LOSSES THROUGH UNWISE CREDIT
GRANTING WILL BE WHOLLY OR NEARLY NON-EXISTENT
UNDER THE LIBERAL BUT CAREFUL ADMINISTRATION AND
SUPERVISION OF COMMERCIAL CREDIT FINANCING. YOUR
COMMERCIAL CREDIT REPRESENTATIVE HAS INTERESTING FACTS
AND FIGURES TO SHOW YOU. GIVE HIM THE OPPORTUNITY.

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JACK & HEINTZ CONDENSING UNITS

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JACK & HEINTZ MOTORS

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Air Conditioning and Refrigeration
Units—Parts—Tools—SuppliesSend for our 47-A Catalog
For Wholesale Trade OnlyPlease write on your letterhead
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The HEIGHT OF LOW-COST SERVICE!



INLAND TILT OUT ICE CUBE TRAY

(Available in single tray as shown or in double-duty
Dessert tray size . . . with or without Pan Lifter)

Economy! Utility! Convenience! The Magic Finish Inland Tilt Out Ice Cube Tray combines all three. That's why makers of automatic refrigerators and dealers are finding it a sales favorite everywhere.

It's simple and easy to quickly

release full-size ice cubes—2 at a time or a trayful—with the operating lever illustrated above. What's more, this economical tray freezes ice cubes in a jiffy.

Find out more about this great value in modern ice cube trays.

For full particulars and prices write to—

INLAND MANUFACTURING DIVISION, General Motors Corp., Dayton, Ohio



Wyoming Furniture Store Forced To Drop Appliances

CASPER, Wyo.—"High prices, customer resistance, and shortages of supply," are causing Forsling's Furniture Store to close out its line of appliances.

The major appliance department, although completely equipped, and franchised with six leading lines, has been simply too much "headache" and a constant source of irritation and loss of goodwill, according to the management.

Female Clerks Content as Owner Installs Washer

THE DALLES, Ore.—A grocer here has found a way to keep two married women clerks happy and on the job. George Ferguson, of Fergie's Fine Foods, installed a Bendix washer in the basement of the building housing his store and home. While the clerks wait on customers, the washer processes their family washings.

Fresh Fruit Sundaes Are Year-Round Item Through Storage Plan

DENVER—A soda fountain which has served absolutely no artificial fruit flavors for nearly 10 years and does a sales volume in excess of \$66,000 per year is an outstanding attraction at the Pencol Drugstore, Colfax and Pennsylvania Sts. in Denver.

A. Stein, owner of the store, has stuck to his guns in serving refrigerated fresh fruits for more than one reason. He feels that fountain drinks more or less reflect the quality of the store as a whole, and therefore, nothing but the genuine fruit, highest butter fat-content ice cream and finest ingredients go into his drinks.

"We don't make as much profit per customer as does the average drugstore soda fountain," he admitted, "since our prices are the same. But we serve the same customers day in and day out, and the huge volume of business we do has convinced me that top quality at the fountain is top profit in the long run."

When early efforts along this line began to show results, Mr. Stein determined to protect himself against seasonal shortages of various kinds of fruit by operating his own storage setup. Therefore he has storage space for more than 10 tons of fruit in a Denver frozen foods warehouse, where he keeps an inventory which includes as much as 3 tons of strawberries, 2 tons of pineapple, always on hand.

California Distributing Co. Retains Personnel from Western Refrigeration

OAKLAND, Calif.—With the dissolution of the Western Refrigeration Co. and the formation of the California Distributing Co., headed by T. F. Rhoy, almost all personnel of the former organization continued on with the latter, Lem V. Branson, sales manager, has announced.

Chalmers Tefft, who had been a partner with Mr. Rhoy in Western Refrigeration, has organized his own business of specialty fabricating and industrial refrigeration, Mr. Branson said.

California Distributing Co., whose formation was previously announced by Mr. Rhoy, continues the distributing business carried on by Western. It covers 50 counties in Northern California and Reno, Nev. It distributes the commercial and domestic refrigeration products of Victor Products Corp., C. L. Percival Co., Revco, Inc., Paley Mfg. Co., Merchant & Evans Co., Lehigh Foundries, Refrigeration Engineering Co., and others.

2 Frigidaire Firms Name Lawrence Credit Manager

DAYTON, Ohio—R. H. Lawrence was recently appointed credit manager of both the Frigidaire Division of General Motors and the Frigidaire Sales Corp.

A veteran of 21 years service with the company, Mr. Lawrence for the past several years has shared responsibility for credit management with Garfield Puls, who recently retired. Mr. Lawrence was formerly credit manager of the central region and assistant credit manager of the Frigidaire Division, according to D. K. Banker, divisional comptroller.

Durable Goods Lead Way as Sept. Retail Sales Rise 10%

WASHINGTON, D. C.—September sales by independent retailers throughout the country climbed 10% above August and 11% above September of last year, the U. S. Bureau of Census has reported.

Largest gains were reported in the durable goods field particularly in building materials, 37% over September, 1946; motor vehicles, 25%; furniture, 17%; and hardware, 13%.

Smaller gains were noted in nondurable goods with eating and drinking establishments reporting a 2% loss from last year.

Data was furnished by 16,500 independent retailers.

Albert Forms Publishing Firm To Specialize In Visual Aids to Selling

NEW YORK CITY—J. Louis Albert, president of The Albert Advertising Agency, Inc., merchandising counselor, editor of The Standard Refrigerator Trade-In Manual & Dealer Guide, announces the incorporation of a new publishing firm, Nelda Publications, Inc., 503 West 43rd St., New York City. The new house will specialize in visual merchandising and selling aids of interest to retailers, manufacturers, and distributors.

The first title to appear under the imprint of the new firm will be The 1948 Standard Merchandise Manual, a visual reference guide covering top-brand appliances, radios, and associated merchandise. Publication is scheduled for Nov. 1. Price: \$5.00 per copy.

"Over 1,000 electrical appliances, radios and related products from the current production lines of more than 250 leading manufacturers are illustrated in this first manual," reports Mr. Albert.

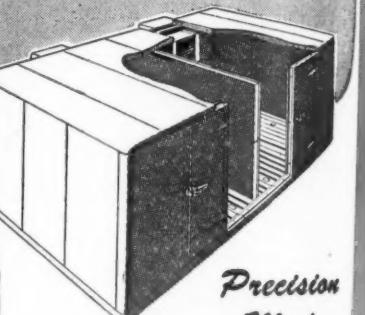
All the merchandise selected for inclusion in the first edition has been classified and arranged by type and use in the home. The various manufacturers' models, all nationally advertised and nationally distributed, appear side by side for visual identification and comparison. Maker's specifications and current retail prices are other features of this book.

New Model
"RECO-FAB"

ALUMINUM EXTERIOR AND INTERIOR FREEZE COOLERS

FOR ZERO OR MED-
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TO ERECT, MOVE OR ENLARGE



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SECTIONAL CONSTRUCTION

Partial List of Sizes Shown Below—Write
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Desired. Indicate:

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- ★ Quantity of Product to Be Stored
- ★ Temperature of Product When Placed in Cooler

So That We May Recommend Proper
Packaged Refrigeration System for the Job.

Model	Size	Cu. Cap.
80-1	4'11" L x 8'6" W x 7'6" H	192
80-2	8'6" L x 8'6" W x 7'6" H	366
80-3	12'1" L x 8'6" W x 7'6" H	550
80-4	15'8" L x 8'6" W x 7'6" H	715
120-3	12'1" L x 12'1" W x 7'6" H	812
120-4	15'8" L x 12'1" W x 7'6" H	1075
120-5	19'3" L x 12'1" W x 7'6" H	1339
120-6	22'10" L x 12'1" W x 7'6" H	1600
120-7	26'5" L x 12'1" W x 7'6" H	1862

Larger Sizes to
4000 CU. FT. CAPACITY

- Available with **RECO-PAK**
- SELF-CONTAINED
REFRIGERATION SYSTEM
EQUIPPED WITH BLOWER
COIL AND RECOMATIC
DEFROST OR WITH SHARP
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for lifetime service!



MODEL No. CSU-48
COMBINATION
SANDWICH UNIT
AND TOASTER STAND
48" LONG



6' FULL VISION
DISPLAY CASE
—3 LAYERS THERMO PANE

THE REFRIGERATION OF TOMORROW
Today!



Solidly WELDED THROUGHOUT

No chip, no peel, no corrosion, indestructible, sanitary stainless steel, inside and outside.

Permanent steel foundation for lifetime durability.

There's not a sliver of wood in the construction of the advanced design Vimco cases.

Truly the Refrigeration of Tomorrow is yours TODAY.

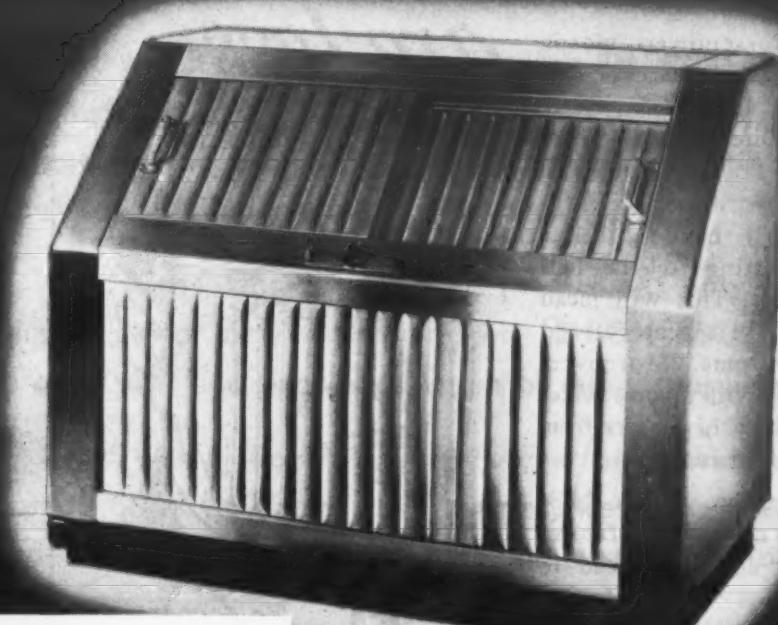
Each of these four Vimco cases is a streamlined masterpiece of smart, practical design that provides users with the most in serviceable space and efficient service. Every attention has been given to detail and finish. All inside corners are rounded for sanitation and easy cleaning.

The enthusiastic reception given to Vimco's Refrigerated Cases is recognition of their fine craftsmanship and sterling value.

You'll want a Vimco. Orders accepted now for prompt shipment. Write or wire for complete details, and our new catalog.



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BEER DISPENSER
2 BEER—1 WATER. 3 BEER—1 WATER



BOTTLE COOLER
AVAILABLE IN
4 SIZES . . . 4', 5', 6', 8'

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INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

nity for getting ahead in life seems to be favored or ill-starred according to the time of your birthday.

For example: if you are a go-getting, overtime-working, acquisitive sort of fellow, you won't do nearly so well during the present era as did your counterpart grandfather—who paid no income taxes, and whose ambitions weren't thwarted by rigid rules laid down by labor union leaders and bureaucrats.

Contrariwise, as a modern-era youngster, if you begin your earning career at the start of an upward movement in the 18-year cycle (say, in 1952) you're far better off than is the lad who set out to earn his fortune during the downturn of that cycle (say, in 1934).

Believers-in-cycles admit that they work with averages—that there are exceptions to their rules. Nevertheless, they insist that success and failure are relative—because they are mitigated by forces over which the individual, the corporation, or the nation has little or no control. And that's for sure, as anyone with a grain of common sense knows.

Whether or not the ambitious-to-get-ahead youngster (a rare specimen, nowadays) is encouraged or sublimated or estopped by the revelations of cycle-hounds is entirely a personal matter.

If his self-confidence is highly surcharged, he'll dash ahead—no matter what anybody tries to tell him about predestination. But if he's Casper Milquetoast sort of fellow, he'll try nothing, dare little, and slip quietly into ignored ignominy—if he reads the cycle charts too seriously.

The Nine Comes Up Quickly

When we mention the third time-wave which has been plotted so hopefully by the rhythm worshipping cult—the nine-year cycle—we're stepping on sensitive toes. Most business men who have held positions of responsibility for two decades or more have observed the workings of this nine-year trend at least once or twice during their corporate lives.

At nine-year intervals most rising businesses experience a "second wind." Radical new designs, altered conceptions of cost-price relationships, and renewed vigor in the sales department seem to pop up just in time (at nine-year intervals) to prevent the occurrence of a business calamity. These new leases-on-life happen to small business enterprises "at the sign of nine" with startling regularity.

Why? Nobody knows.

Inspired by a renewed feeling of enthusiasm, the youngish business surges upward, borrows money, hires more people, and goes forward to seek new heights of achievement at the very moment when all its original momentum seemed to have been spent.

These nine-year resurgences of enterprise occur in entire industries, as well as in single and singular business ventures.

Every 42 Months

And even a junior executive, after he has been on the job for a decade, will have noted that the luck of his firm seems to bob up and down on a 3½-year cycle.

These jumps-and-falls aren't sharp or upheaving; but they're so regular as to be uncanny.

In the stock market, in cattle breeding, in the human birthrate, in iron production—yes, and even in the divorce and suicide rate—this shortest of natural rhythms is clearly seen on any chart which attempts to record either human fallibility and insensate or inchoate spawnings.

To be sure, not every business enterprise is subservient to the whims of the dips-and-bounces which take place every 3½ years. Furthermore, only a portion of the world's married couples break up after 3½ or 7 years of cohabitation (although those are the danger points). And a mere fraction of the world's populace commits suicide at the precise instant foretold by The Big Brains who assume that they have encompassed the mysteries of the cyclical wavelengths.

True scientists are concerned with vast numbers, not single items; they predicate their calculations upon percentages, rather than upon insignificant digits.

The percentage-worshippers (the "form players," as they are known at the race tracks) will tell you that at the bottom of every 3½-year period most human beings seem to be unduly pessimistic, and so they act and react accordingly. (New definition of a pessimist: He's a fellow who once believed an optimist.)

But they will also admit that in-

dividual persons, like individual enterprises, may feel "on top of the world" (and act accordingly) while the great bulk of their friends and neighbors are "down in the dumps."

What Causes These Movements?

Researchers who have dedicated their lives to the exploration, definition, and extrapolation of cyclical phenomena are quick to warn that they don't know why there's a clockwork time-factor which alters the best-laid plans of mice and men. All they're concerned with is finding out when certain happenings repeat themselves, and how these repetitions may be interpreted.

A few brave souls have ventured to point out that the sun and the moon and possibly the stars (hello, astrologers!) seem to influence earth-bound movements. Could be. It's hard to believe, but these interesting observations undeniably are true:

Varying degrees of temperature and humidity during any "season" obviously have a lot to do with the reproduction rate of animals and the abundance of crops. What's more, varying degrees of ozone in the air, and of atmospheric electricity, appear to have profound effects upon individual, group, national, and international tempers. (The man who figures out a mathematical equation to describe this situation should be able to predict the coming of international wars, local legislation, and family quarrels.)

Those "waves" which the cyclical engineers dote upon appear to be sun-directed. And it's high time that we learn more about them, so that we can direct our pursuits to greater advantage.

There's a vast field to be explored in connection with solar radiation and its influence upon human emotions and plant-animal life. Again, "common sense" tells us that there must be something in this quest for knowledge.

Maybe the Sophisticates Aren't So Smart, After All

All of us have noted that on some days we feel wonderful, for no reason at all. At other times, nothing we do seems right.

These same emotional dipsy-dos also are experienced by our con-nubial mates and by our business associates, too. Usually we are more aware of the "good days" and "bad days" which people closest to us have than we are of our own personal rhythms.

Whether we like it or not, most people are either unwarrantedly despondent, or hell-for-leather riding high at any given moment. It's the weather which enfolds us in its occasionally clammy embrace, says the cyclists. And possibly cosmic rays have something to do with our states-of-mind.

Who amongst us can prove that the quality and quantity of the sun's rays don't affect our lives profoundly? The sophisticates may laugh at this notion; but some scientists don't.

Pray to the Sun

Primitive tribes bow low to the power and the glory of the Sun, Moon, and Stars. In their religious

ceremonies, and in their daily routines, they make obeisance to these heavenly bodies. These uneducated, unspoiled, close-to-nature folk feel sure that the Stars and the Sun govern their temporary success or failure as people and crop-raisers.

In their sublime ignorance of science, these primitive folk seem to understand that "God works in mysterious ways."

But America's native Indians, Australia's aborigines, the happy South Sea Islanders, and the patient Orientals do not have a patent on this notion.

Such down-to-earth laboratory technicians as C. N. Anderson of the American Telephone & Telegraph Co., and Chas. Kettering of General Motors Corp., have spent many dull and desultory years tracking down and codifying and composing the histories of vegetation trends, solar radiation curves, and eruptions on the sun with the records at their disposal which sum up suicides, divorces, crimes, bank loans, and business failures.

And every time that they superimpose the sun-graph of sudden blazes upon the earth-graph of economic and political deviations, they find that the two wavering lines invariably are almost identical. Sun eruptions, when pictured and compared with recorded human activities, seem to ride up and down alongside superimposed curves drawn from data on earthly happenings of historical consequence.

Whether or not the sun's emanations guide the earth, or vice versa, is a problem which few of us may ever learn much about before our dead souls shuffle off to new adventures.

It does seem possible, though, that higher and yet-undiscovered forces may guide both the sun's compelling rays—and the behavior of population masses on the earth—into identical orbits of conduct and comportment. These gigantic, overpowering cosmic forces may direct the progress or retrogression of our personal fortunes.

In the absence of supporting data, let's say that God is here, there, and everywhere. And let's also agree that we mortals have much to learn about why we act like we do, and why we are buffeted about by the winds of chance.

How Can We Harness The Cycles?

All this speculation is interesting and intriguing to anyone who possesses a prime curiosity about Life's "meaning," and who will acknowledge that none of us understands much about primal psychology, fundamental philosophy, or solacing religion.

But practical, hard-headed business men may ask: What good is this exploration into natural rhythms and cosmic cycles? How can such explorations of The Unknown serve to make us better citizens or workmen?

Well, we can say this: when the Science of Cycles has been developed further, it will help all of us to ascertain "where we are" and "where we're going" at any given moment.

Why? Because eventually the dubious science, after we know more about it and have learned how to "dig" it better, will show the more thoughtful of us how we can evaluate the potentialities of our dreams and our guesses.

(To Be Continued)

ARNOLD ECKHART, SR., President and Chief Design Engineer, Eckhart Mfg. Co., Manufacturer of Silent Korth Heating Equipment.

His delivery worries are less

Fractional horsepower motor standardization is a "natural" for the purchasing agent. No wonder F. V. Owen, Director of Purchasing, Tecumseh Products Co., says: "I can see how, by sticking to standards, we'll have a better chance of getting off-the-shelf motor deliveries. This will mean fewer purchasing, inventory, and stocking problems. Moreover, standardization will give us wider interchangeability of motors from different manufacturers.

In the long run, too, you should be able to give us more motors for our money. We'll do all we can to facilitate greater production of fewer motor types".

F. V. OWEN, Director of Purchasing, Tecumseh Products Co.

GENERAL ELECTRIC

Unit-bearing Fan	Washing Machine
Oil Burner	
Machine Tool	
Gas Pump	Jet Pump
Hermetic Refrigeration	Shaft-mounted Fan
Belted Fan	Sump Pump
Ceal Stoker	General Purpose

Filtrine HIGH EFFICIENCY WATER COOLERS

GALLON FOR GALLON...YOUR BEST BUY!

For Cafeteria use . . . stainless steel cabinet models in all sizes. For Industrial use . . . variety of models for temperatures down to 34°. Several choice areas available for manufacturers' representatives.

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53 Lexington Ave., Brooklyn 5, N.Y.
Manufacturers of Coolers & Fans
for over 40 Years

DISI Will Discuss World Milk Supply At Its First Annual Meeting In Miami

MIAMI BEACH, Fla.—Improvement in the world supply of milk and milk products will be the theme of the first annual meeting of the Dairy Industries Society, International (DISI) to be held, along with conventions of major U. S. dairy industries groups, at Miami Beach, the last week in October.

Launched at Atlantic City a year ago, in connection with the Dairy Industries Exposition, DISI has grown within the year from a few charter members to 200, representing some 30 different nations. (No Dairy Industries Exposition is being planned for 1947.)

DISI members, who include dairy farmers, students of dairy technology, health officials, dairy industries' educators, research specialists, bottlers of milk, manufacturers of dairy products, dairy farm and industrial equipmers and suppliers, trade association and governmental technicians and administrators will exchange data at Miami Beach on the conditions of the many phases of dairy enterprise.

Headquarters will be at the Robert Richter hotel, in the northern section of Miami Beach, and a full program of activities has been planned from Monday, Oct. 27 through Friday, Oct. 31. In addition, those members who are eligible will attend the conventions of the Milk Industry Foundation and the International Association of Ice Cream Manufacturers meeting the same week in Miami Beach.

A highlight of the meeting will be the presentation, at luncheon on Wednesday, Oct. 29, of a world-wide survey of the dairy industries, a periodic undertaking initiated last year by the Dairy Industries Supply Association and compiled this year by Floyd E. Davis of the Office of Foreign Agricultural Relations of the U. S. Department of Agriculture in cooperation with DISI.

The survey will give statistics on milk production, processing activities, distribution of dairy products, etc., in all parts of the world, and will

be of particular value this year, in view of the almost global food crisis.

Another side of the picture—what the several countries can expect in the way of deliveries from all sources of all types of dairy farm and dairy industrial equipment and supplies—will be outlined at luncheon the next day (Oct. 30) by an authoritative panel of representatives of manufacturing companies and trade associations, among them C. E. Glasser, the Diversey Corp.; L. J. Hodge, Standard Cap & Seal, S. A.; George F. Kroha, the Pfaudler Co.; Wayne D. Jordan, the Liquid Carbonic Corp.; Robert Rosenbaum, David Michael & Co.; C. B. Schmidt, the DeLaval Separator Co.; R. B. Wilhelm, Owens-Illinois Glass Co.

Members from abroad will be given an opportunity to visit modern dairy farms and modern dairy

processing plants in the vicinity of Miami Beach and will be close observers at the twenty-sixth annual Collegiate Students' International Contest in Judging Dairy Products, sponsored by the American Dairy Science Association and Dairy Industries Supply Association.

This will make the first time that observers have been admitted to the room where each year, except during the war period, teams of dairy processing undergraduate students from approximately 20 U. S. and Canadian colleges are pitted against each other in judging the quality of widely characteristic commercial samples of market milk, ice cream, butter and cheese.

Roundtable discussions will go into technological advances, consumer education, further development of dairying and dairy processing in areas of relatively greatest need and the utilizing of educational displays and exhibits. At informal meetings as well as roundtable discussions, members will be aided in exchanging "shop talk" with representatives of the industry from other parts of the world by DISI staff linguists.

Detroit Sets Fusible-Plug Metal Melting Point At 165° F. for All Refrigeration Equipment

DETROIT—Fuse metals in fusible plugs used on refrigerating apparatus here must have a melting point no higher than 165° F. and the melting temperature of the fuse metal must be plainly stamped on the plug, the Detroit city department of buildings and safety engineering has ruled.

A bulletin issued by the department stated:

"Because of some confusion concerning the melting point temperatures of the fuse metals in fusible plugs used on refrigerating apparatus, it becomes necessary to define the permissible limit for such temperatures."

"The Refrigeration Code leaves the approval of fusible plugs to the discretion of this department, and we in turn are guided by the recommendations of such national agencies as the Underwriters Laboratories.

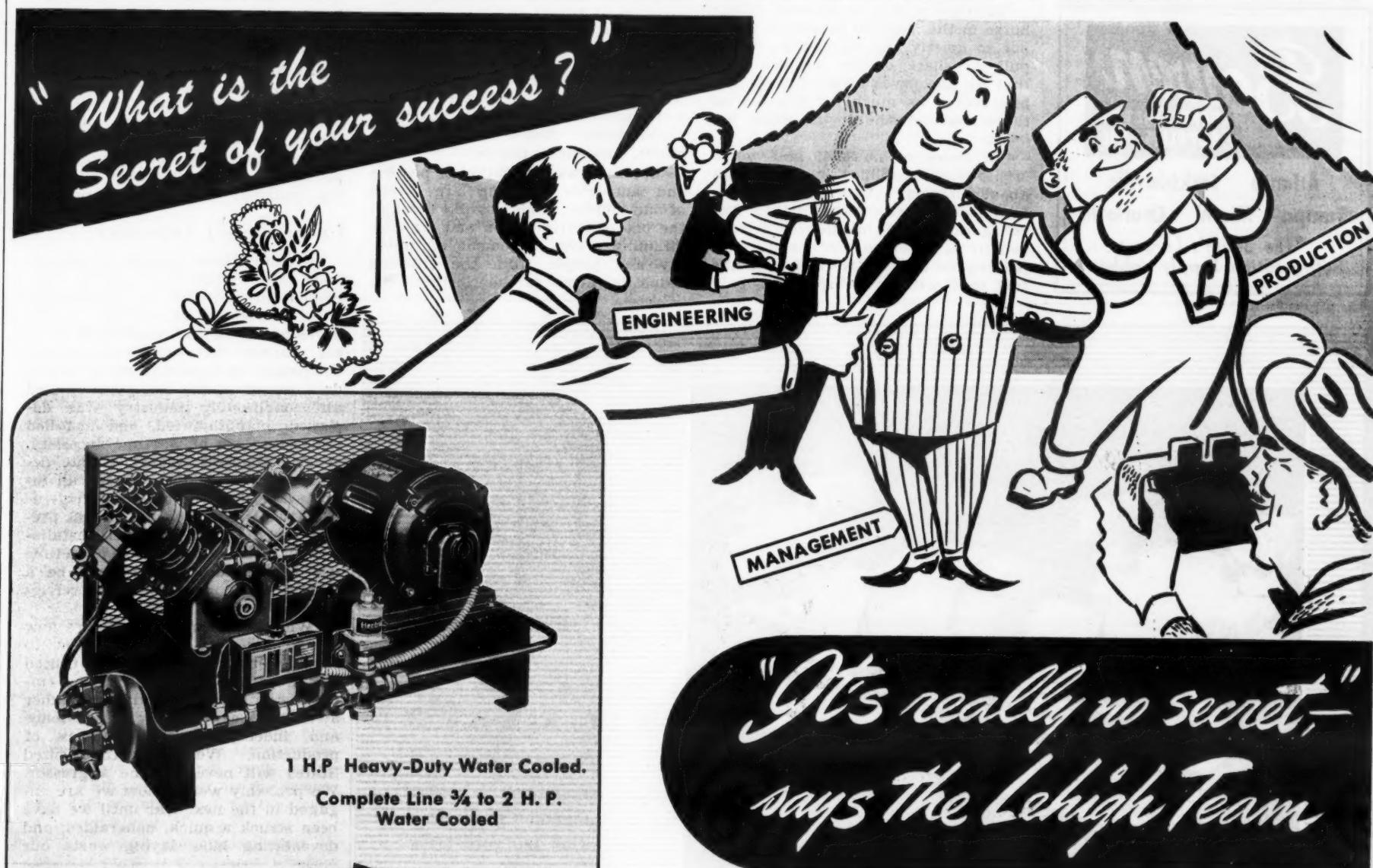
"Fusible plugs in which the fuse metal has a melting point of 165° F. will be permitted."

Likewise, those having melting points somewhat lower than 165° F. will also be permitted. However, those using fuse metals with melting temperatures higher than 165° F. will not be permitted.

"In all cases the melting temperature of the fuse metal must be plainly stamped on the fusible plug."

Omaha Supply Firm Building \$40,000 Model Structure

OMAHA, Neb.—The Dennis Refrigeration Supply Co. has started construction of a \$40,000, one-story building at Park Ave. and Douglas St., which will embody the latest improvements in year-round air conditioning, and serve as a model for Omaha commercial buildings as well as providing a modern salesroom and service shop for the refrigeration supply firm.

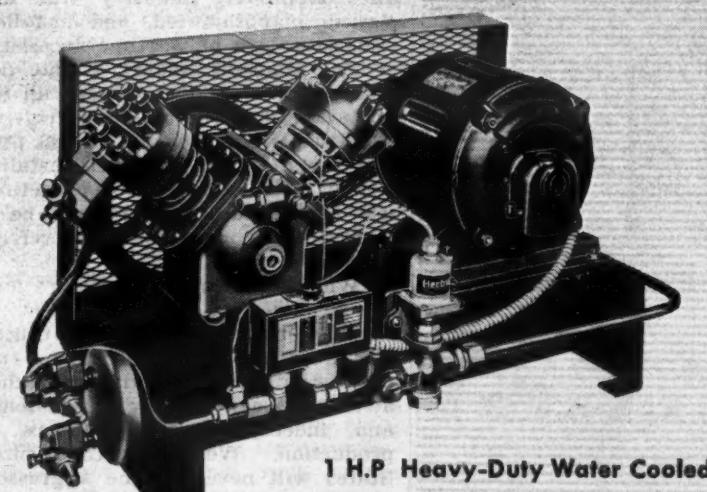


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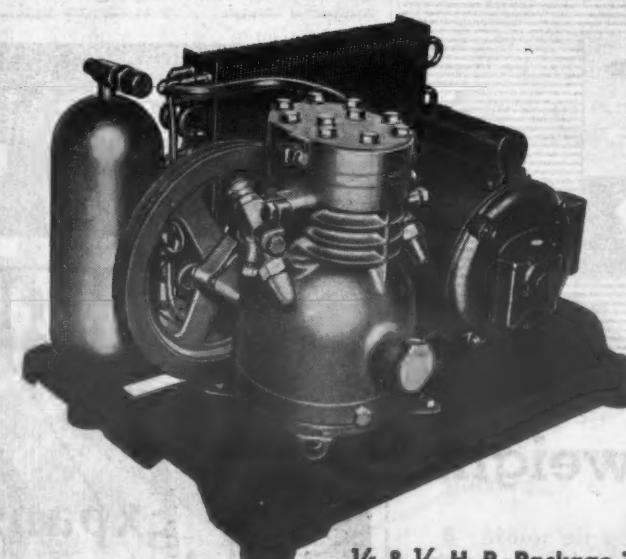
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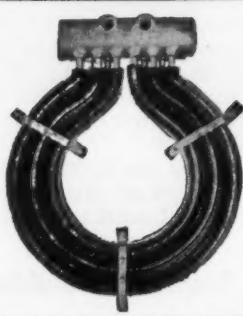
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Demand for Refrigeration, Air Conditioning Hits Peak as Life Grows More Complex

NEWARK, N. J.—"Refrigeration and air conditioning are intimately interwoven with almost every phase of today's way of life," declared William B. Henderson, executive vice president of the Air Conditioning & Refrigerating Machinery Association, Inc., in an address before members of the American Society of Refrigerating Engineers at the Newark Athletic Club recently.

"Refrigeration is a basic necessity in today's world. It ranks almost with steel, petroleum, rubber, cotton, and chemical products as a pillar of our national economy. Hundreds of American Industries are dependent on refrigeration (and its junior partner, air conditioning) for the production of thousands of items of daily use. Refrigeration touches the lives of each American, and many people of the world, each day and in many ways," he declared.

"Refrigeration is a working wheel-horse in the national industrial team, but so quietly and efficiently does it pull its share of the nation's load that for the past half-century it has been taken as much for granted as the air we breathe or the water we drink.

"In times of national and world crisis, the headlines may scream about metals, rubber, petroleum, food, and other vital necessities, but refrigeration, if mentioned at all, usually is accorded but a small and passing footnote. Overlooked is the fact that, without refrigeration, only

a minute fraction of our nation's enormous food output could move more than a few miles from the producing farm through the devious distribution and processing channels to the ultimate consumer.

"Synthetic rubber and the processing of petroleum products rely on refrigeration. Thousands of chemical and pharmaceutical products must have controlled temperature and humidity conditions as they move through the various phases of their manufacture.

"Mining and metal working, automobiles and airplanes, paper-making and printing, transportation and communication equipment, textiles and photographic materials, precision instruments and electronic equipment—these are only a few of the broad industry classifications dependent, in varying degrees, on refrigeration and air conditioning.

Industry, People Migrate

"Dependent, too, is the vast army of users of refrigeration and air conditioning in homes, stores, office and commercial buildings, hospitals, laboratories, banks, restaurants, hotels, and other places.

"We see mass migration of peoples and industries, affecting large areas of our country, made possible through the use of refrigeration and air conditioning. The movement of industry and people from the crowded industrial areas of the North to the

spacious areas and kindlier climates of the South is profoundly affecting our national industrial and political economy and, directly or indirectly, the lives of all of us.

"A new industrial, agricultural, and social empire is being built below the Mason and Dixon line. One reads the almost daily appeals of Northern Chambers of Commerce, desperately trying to induce industries to stay in the North. To the Northerner, this mass migration to the vast reservoirs of natural resources and productive manpower of the South is a grim reality of economic evolution.

"It is not illogical to assume that a quarter of a century from now we may find that the balance of industrial and economic power has slipped from the Northeastern states to the Southern states. In all this economic, political, and social realignment, refrigeration and air conditioning are playing and will play a leading role.

"As a result of the development of atomic power, the United States and the world face a future fraught with both great promise and ominous threat. In this new development, too, refrigeration and air conditioning constitute an irreplaceable pillar in the national and world structure.

Undreamed-of Capacities

"Atomic fission produces tremendous heat. That heat can be controlled only through the employment of large volumes of cooling. In the development of the Manhattan Project during the war, refrigerating equipment of capacities never before dreamed of in the refrigeration and air conditioning industry was designed, manufactured, and installed under the lash of wartime necessity.

"The Hanford, Wash., atomic development pile alone required an installation of 12,000 tons of refrigeration, twice as big as the largest pre-war installation. For each installation of atomic power for peacetime use in the future, there will be a corresponding need for more refrigeration.

"Widespread preparations are now being made by our government to ready defenses should the United States be attacked by an enemy employing atomic, bacterial, or other awesome weapons now in existence and, indeed, in some measure of production. We know, the United States will never be the aggressor. We probably won't know we are engaged in the next-war until we have been struck a quick, unheralded, and devastating blow laying waste our

cities and killing hundreds of thousands of our people.

"Obviously we must guard, and so distribute, our strength that we may be in a position to launch a shattering counter-attack on such an aggressor. Essential supplies must be stored in widely-separated bomb-proof and radioactive-proof shelters. Key industrial plants must be dispersed and similarly protected.

"Adequate shelters must be provided for both military and civilian personnel. Our Navy must learn to live and fight in sealed hulls protected from deadly radioactive rays. Our Army must be largely airborne, carrying food supplies adequate for extended periods and equipped with a multitude of lightweight fighting and maintenance gear.

Need for Preparation

"All this may sound like 'scare-reading' to a nation sick of war and all its terrible consequences. However, not to prepare for such a real possibility would be to invite disaster. By demonstrating that the United States is prepared and strong and in a position to deal deadly retaliation, we may deter a potential aggressor, and possibly avoid disaster until the nations of the world learn to live together in harmony.

"In our nation's preparations for possible future hostilities, refrigeration and air conditioning assume their traditional role of vital essentials. In a future wartime emergency, factories would have to operate, and people would have to live, in subterranean spaces. Food and other materials would have to be stored and preserved and the air in the enclosed spaces kept free of all kinds of contamination.

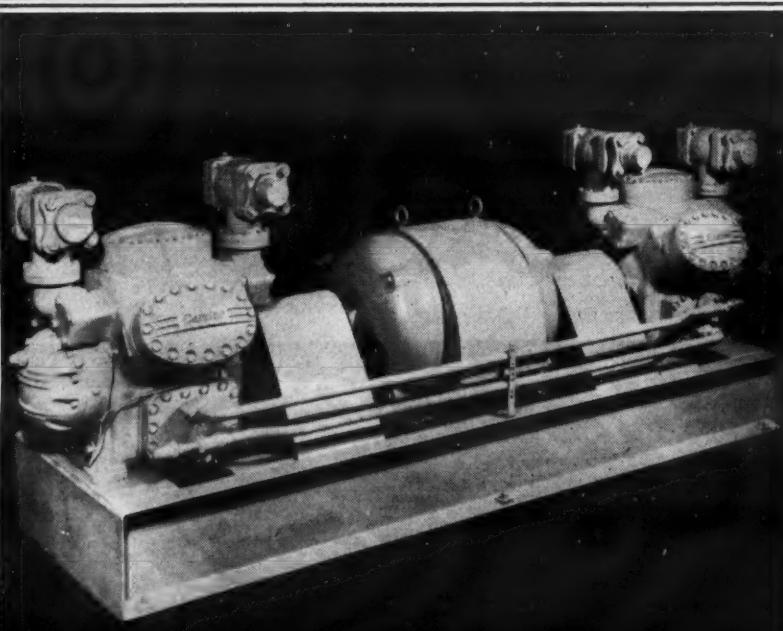
"That quick glance into the future, disturbing though it may be, again demonstrates the large responsibility our industry has to the nation. We must not lag in the constant effort to design and produce the best and most efficient refrigerating and air conditioning equipment possible, and we must be prepared to produce it in large quantity.

Export Demand Stimulated

"The last war greatly spurred the demand for refrigerating and air conditioning equipment throughout the world. Far-traveling American fighting men took with them their own refrigerating and air conditioning equipment. People in far-off lands saw its beneficial results in food handling and its use in hospitals, in living quarters, in material storage and other applications."

"Since the war, the orders our industry has been receiving for export have been tremendous. Because of the demands of our home markets, material shortages, the lack of dollar exchange, and export controls, it has been possible to fill only a small portion

(Concluded on next page)



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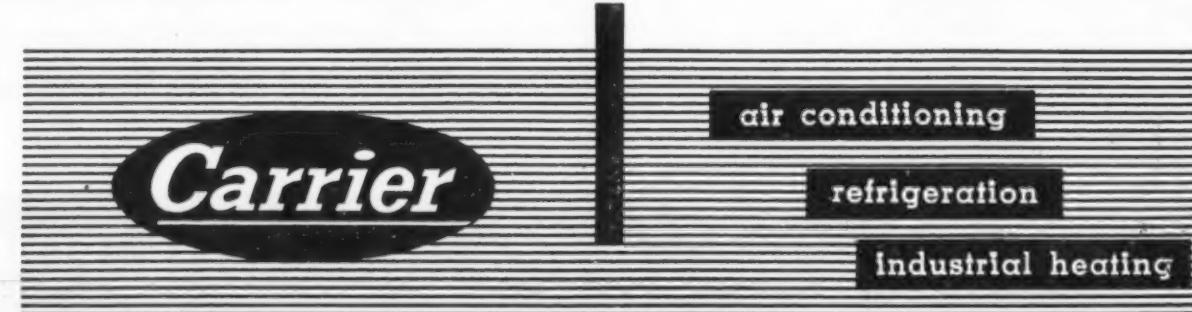
The 5H60 dual is designed for uninterrupted service in larger freezing and processing plants, as well as industrial and comfort air-conditioning

installations. New design features and quality parts assure years of heavy-duty operation.

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With Equipment Sales Soaring, Industry Elements Must Cooperate on Standards

(Concluded from preceding page)
tion of the orders from overseas markets.

"In the first six months of 1947, shipments of refrigerating and air conditioning products were valued at \$32,000,000 but the backlog of foreign demand is probably 30 times that figure. It shows no indication of diminishing in the foreseeable future.

"The requirements of our home markets are substantial, but gradually production is cutting into the huge replacement and new-equipment demand resulting from four years of equipment-starvation. The production personnel of our industry has wrought miracles in the face of material shortages, labor troubles, and reconversion headaches. But the war brought our industry one stroke of good fortune—productive facilities have almost doubled, so that we are in a better position to meet the heavy calls for industrial and commercial refrigerating and air conditioning machinery. The industry sales curve has surged to a new high point in terms of dollars.

\$250 Million In 1947

"In the year 1947, sales of refrigerating and air conditioning equipment, excluding accessories and collateral items, such as storage boxes, soda fountains, liquid coolers, etc., and of course, household refrigerators (a very large item, running into hundreds of millions of dollars), will approximate \$250,000,000 of factory billings.

"Shipments of comparable equipment in 1940 were valued at \$55,000,000—thus there has been an increase of 450%. However, you and I know that the 1947 dollar is but a pale reflection of its 1940 counterpart. Therefore, to appraise this large increase in sales in proper perspective, we use, as an adjustment factor, the Bureau of Labor Statistics index of wholesale prices for the metal and metal products group.

"Using that means, we find that the actual increase in dollar sales, 1947 over 1940, is 178%. Given normal material supply and production conditions in 1947, the unit sales volume could easily have been tripled.

"The demand comes from all fields. For example, in a recent survey the hotel industry indicated a current need, in existing hotels, for new and replacement refrigerating and air conditioning equipment amounting to approximately 90 million dollars. Most industrial and commercial construction, now under way or contemplated, is planned for the installation of air conditioning either at the time of building or later.

Sales Price Rise Small

"The owners of many existing buildings are planning the installa-

tion of air conditioning. The cost of producing and installing refrigerating and air conditioning equipment has advanced 40% to 60% over 1941, while selling prices have increased only slightly over 25% on the average.

"There is nothing static about the refrigeration and air conditioning industry. As one example: There is a substantial trend both in existing buildings, and also in planned new construction, toward the use of banks of self-contained unit air conditioners, functioning automatically in series, instead of the conventional central-station installation.

Package Unit Demand Grows

"In many instances, such an arrangement effects important economies of both installation and operation. There is an increasingly-growing demand for and use of completely factory-assembled 'self-contained' air conditioners. These now range in size from $\frac{1}{2}$ hp. up to 25 hp. It is probable that that trend will extend to ever-higher capacities.

"New equipment designs and refinements are moving out of the research and development laboratories of the industry to the production lines. Compressors are commonly operating at speeds in the neighborhood of 1,750 r.p.m., and some up to 3,500 r.p.m., yet it is only a few years back that compressor speeds of 1,000 r.p.m. were viewed with something akin to skepticism mixed with some alarm.

"Lightweight compressor bodies of tough new alloys are replacing former bulky, heavy materials. We hear whispers of new, more efficient refrigerants being developed which may replace the old reliables of the past. New methods of air distribution, odor control, and the removal of foreign matter from the conditioned air, will probably be announced before long.

Watching Heat Pump

"The modern development of an old principle, the 'heat pump' or 'reverse-cycle refrigeration,' is being watched with keen interest. As you know, the heat pump is simply a device for pumping heat from a low-temperature level to a high-temperature level. When applied to the heat of dwellings, the heat pump withdraws heat from some low-temperature source of supply, such as the outside air, well water, or the ground, and delivers this heat to the inside of the dwelling.

"The largest potential market for the heat pump is residences, where it must compete with existing and more conventional methods of heating and cooling. Opinion in the industry appears to be about equally

divided as to whether the heat pump will be a large-scale commercial success or a sorry disappointment to its proponents.

"As I have outlined, the future is full of stimulating challenge for the industry, but I wonder whether some of us haven't let our working tools get a bit rusty, whether we aren't in a species of rut, or whether, at times, we aren't afflicted with a sort of postwar inertia. Have we forgotten how to sell? Production is catching up with demand and the day of the heavy-seated order-taker is rapidly coming to a close. In the meetings of the ACRMA product-sections, much discussion and planning are being devoted to the refurbishing of industry selling techniques.

"To meet the heavy demands on our industry for refrigerating and air conditioning equipment which can be foreseen in at least the next decade, more is necessary than advances in development, design, production, sale, and installation. ASRE, as the professional engineering society, and ACRMA as the manufacturers' trade association, must review and bring up to date industry codes and standards.

"On this important work there must be the closest of collaboration between the two groups and the American Standards Association, so that the users of our industry's products may be well served.

"ACRMA has now published over 30 equipment and application standards and has more than 10 additional either completed or in course of preparation. These cover a wide range of equipment and types of applications. ACRMA standards publications have a wide distribution and use throughout the industry, and many leading educational institutions use ACRMA standards as text

material in their courses of instruction.

"A primary responsibility of manufacturers and installers of refrigeration and air conditioning equipment is a close working relationship with the public utility companies. Some of these companies have, during recent months, been looking at the fast-mounting air conditioning load with something of a jaundiced eye, feeling that it had some undesirable load characteristics.

"This current lack of enthusiasm in some public utility quarters is undoubtedly largely the result of shortages in power-generating equipment and may be expected to disappear concurrently with the easing of that strain. As a matter of fact, in most instances the air conditioning load is a desirable load, largely off-peak and with steady demand.

"In a surprisingly-high percentage of instances, air conditioners are operated year-round, either as a means of ventilation in the off-cooling season or equipped with coils to serve as heating units in the winter. ACRMA is now in the process of collecting data to document, fully, the case that air conditioning provides a desirable load-factor from the public utilities' standpoint—one which should be promoted and encouraged.

3 Groups Work Together

"To further round out the picture of close cooperation by all elements interested in the future of refrigeration and air conditioning, the work of the joint committee composed of representatives of the Edison Electric Institute, the National Electrical Manufacturers Association, and ACRMA, is a good illustration. This joint committee deals with such matters as starting currents, motor loading, promotional methods, and

other matters of common interest.

"ACRMA works similarly with other industry groups. Through such joint industry committees, obstacles of common concern are met and overcome. As manufacturers we are, and must always be, conscious of the challenge to build better and better equipment which will serve our customers more efficiently at lower cost and which may dovetail as closely as possible with the installation and desirable-load requirements of the power companies.

"One of the primary and essential responsibilities in making a sale of our industry's products is to tell the customer, with exactness, the power-load requirements of the equipment he is contemplating buying and to check with the power company as to the availability of the required service. Too often, in making a sale, these vital steps are overlooked, to the consequent embarrassment of all concerned.

"Each of you has the product of a particular company to sell. To each of you that company's product is probably of first concern. But on each of us there is a responsibility which spreads beyond the confines of any company, trade association, or engineering society tie. It is the responsibility we each owe to the industry and to its customers.

"It is a responsibility which demands that we produce constantly-better equipment, that the equipment be installed to operate with the utmost efficiency, that adequate codes and standards be formulated to serve as guideposts and measures of value for the industry and its customers.

"We must overlook no opportunity to promote the interests of the industry by serving its customers efficiently and well."

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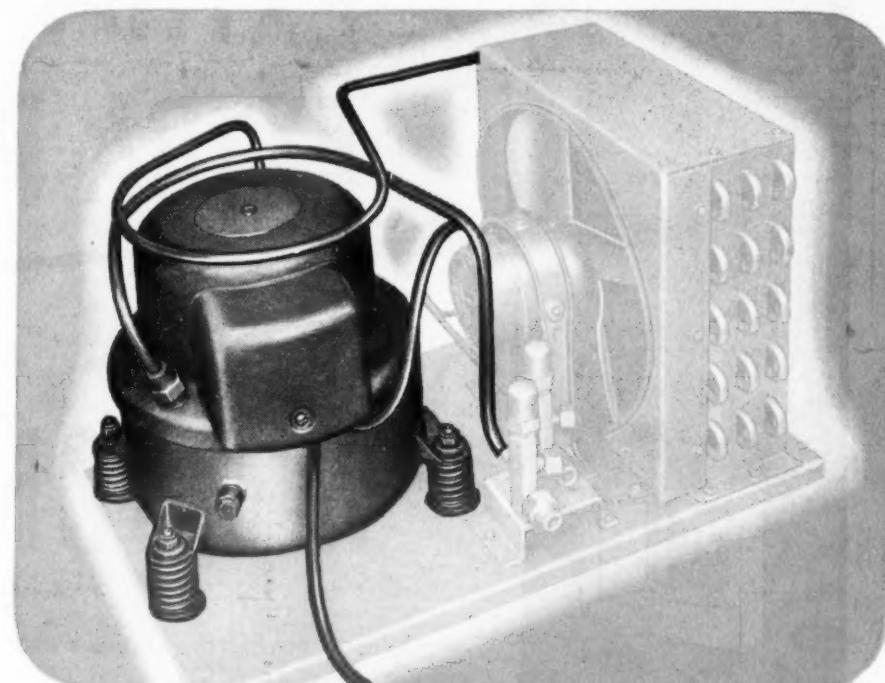
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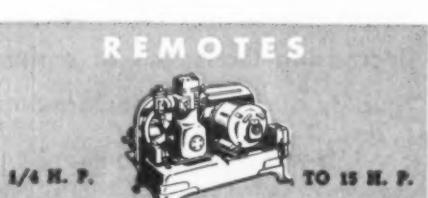
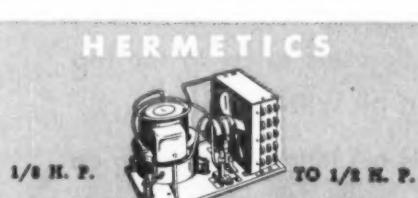
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End of Reg. W Gives Dealer Responsibility Of Choosing Wise Instalment Selling Plan

By Rees D. Stith
Office of Small Business
Dept. of Commerce

In most kinds of retail businesses, the choice of a policy of cash or of credit rests largely with the individual merchant. If the merchant has sufficient working capital to carry accounts receivable and believes that selling on credit will benefit his business, he extends credit to his customers.

If, on the other hand, he lacks the larger capital necessitated by credit sales, or thinks it unwise to sell on credit, he holds to a policy of cash sales only.

Financing Credit Sales

The electrical appliance and radio dealer, however, has little choice between a cash or a credit policy. His is a field that is founded largely on credit for the price of much of its merchandise is greater than the average customer can pay at one time.

During a normal year some 80% of all electrical appliances are sold on credit. Consequently, the household appliance dealer who wants a profitable share of the market usually must offer his customers a system of deferred payments.

Generally there are three chief ways in which an appliance dealer may finance his credit sales: (1) Through the use of his own capital; (2) through the help of a sales

With the termination of Regulation W controls on Nov. 1 dealers in refrigeration equipment and appliances will have somewhat of a wider choice of plans for financing sales of their merchandise on instalment terms. This article outlines the sound fundamentals of instalment financing, and also discusses some of the methods by which the dealer finances his inventories.

finance company, and (3) through the help of a bank.

The average appliance dealer, whether a new or an established one, finds it difficult to finance all his credit sales out of his capital. To do so would require too large an investment, since money tied up in instalment sales is "frozen" for a long time, and includes not only the cost value of the appliance, but the dealer's anticipated profit as well.

Because of the large capital investment necessary to carry accounts receivable, the appliance dealer usually must seek assistance in financing credit sales. True, if he sells used appliances on credit—or smaller appliances, though they are seldom sold on credit—he may finance these out of his own capital.

But in credit sales of major appliances, such as refrigerators, ranges, washers and ironers, he usually avails himself of the financing services of sales finance companies or banks.

Financing Services

Both finance companies and banks are engaged in the financing of household appliances. The field has for the most part been dominated by finance companies, but banks today are entering it in increasing numbers.

Banks and finance companies can assist the appliance dealer in two ways. They may purchase or discount his instalment contracts, or they may grant "floor-plan" loans to him.

When a bank or a finance company discounts an appliance dealer's instalment contracts, it buys them for sums less than the amounts due on them.

For example, a customer buys a range from a dealer on the instalment plan, making a down payment and signing a contract for the balance. A finance company or a bank then purchases the contract from the dealer for a sum less than the amount due on it, collects the full amount of the contract, and thus makes a profit on the transaction.

The discount plan most commonly offered to small and medium-sized dealers is based on a repurchase or full recourse agreement. This means that the dealer must pay the financing agency the balance due on repossessed appliances.

Other plans, not so readily extended to a new dealer, are limited recourse and no recourse agreements. In a limited recourse plan, the dealer is

relieved of liability after a certain number of instalments or a certain percentage of the balance due on an appliance has been satisfactorily paid.

If the plan is a no recourse one, the dealer assumes no liability except warranties as to the genuineness of the paper, sale, etc.

If the financing agency makes the collections from the customer, the plan is known as a "direct" one. If the dealer makes the collections, the plan is an "indirect" one.

For the dealer, the indirect plan has one major advantage—it enables him to maintain contact with customers. When a customer has paid the balance due on one appliance, he usually is a good prospect for another.

It is sometimes possible for the dealer to retain a degree of the customer contact and at the same time rid himself of collection expenses. This can be done by having the financing agency make the collections, and notifying the dealer when only one or two payments are still outstanding. The dealer can then contact the customer and seek to sell him other appliances.

Floor-Plan Loans

The second form of assistance which financing agencies offer appliance dealers is known as a "floor-plan" loan. Under this plan, the financing agency pays the manufacturer or distributor for the dealer's appliances. When the appliances are sold or when an agreed period of time has passed, the dealer must repay the financing agency. If the appliances are sold on the instalment basis, the dealer must sell the instalment contracts to the financing agency. The prime purpose of floor-plan loans is to enable the financing agency to obtain the dealer's instalment contracts.

The dealer who floor-plans his merchandise generally must work through his distributor and/or manufacturer, who has arranged for floor-planning on a national or regional basis with some financial institution. This arrangement provides that the manufacturer or distributor must pay the financing agency the unpaid balance on any appliance he sells to the dealer under the floor-plan.

Occasionally a dealer makes his own arrangements with the financing agency. In this case, the financing agency, having no recourse to the

(Concluded on next page)

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Good Credit Plan Requires Fair Terms, Careful Screening, Prompt Enforcement

(Concluded from preceding page) manufacturer or distributor, usually requires that the dealer be in a strong financial position.

Although the cost to an appliance dealer varies, the usual charge for a floor-plan loan by either a bank or a finance company is $\frac{1}{2}\%$ or 1% for writing the contract and $\frac{1}{2}$ of 1% per month simple interest for the term.

Study Both Services

Before obtaining the assistance of either a bank or a finance company, an appliance dealer should study carefully the services offered by both. Not merely his present needs, but also possible future ones should be considered.

The vast majority of appliances are sold on the instalment plan. This plan usually involves a down payment, with the balance payable in monthly instalments. Generally, the appliance is secured by either a conditional sales contract or a chattel mortgage. In the conditional sales contract, title is vested in the seller and remains so until the final payment is made, while in the case of a chattel mortgage title passes to the purchaser, but the seller retains lien-privileges in case of default. The conditional sales contract is perhaps more widely favored.

Three principles have been found to be the basis for successful instalment selling of appliances:

1. Sufficient down payment should be obtained to give the customer a large enough equity to create a feeling of ownership.

2. The unpaid balance should be sufficiently below resale value to protect the merchant from undue loss if action to recover possession becomes necessary.

3. The monthly payment should be sufficiently large to increase the consumer's equity faster than the appliance will depreciate through time and average use.

Using Controlled Credits

Regardless of whether an appliance dealer is financing all or, as is more likely, only a part of his instalment sales out of his own capital, he needs a sound, controlled credit system. Without such a system, he probably will suffer serious losses that could have been avoided. Such losses will occur not only among the sales he himself finances, but also among those carried by the financing agency. There, too, the loss is the dealer's in most cases, since he usually must pay the balance due on repossessed appliances.

The basic principles of a sound or controlled instalment credit system are:

1. New instalment customers are approved only after careful and thorough investigation.

2. A definite understanding is reached with each new credit customer as to the credit terms, and his agreement to keep to those terms is obtained.

3. Prompt notice is given to a customer who fails to pay an instalment when it is due.

4. When a customer does not pay in accordance with the terms agreed upon, his credit privileges are sus-

pended until payments have been restored to a prompt basis.

5. The dealer attempts to help a customer instead of merely dunning or threatening him or repossessing the appliance.

6. When it becomes apparent that a customer is unwilling to pay, decisive action is taken to collect the bill or to repossess the appliance.

Investigating the Applicant

Instalment selling involves greater risk for a merchant than regular or open charge account sales. This is because instalment sales extend the privilege of credit to persons who often would not qualify for open accounts, and also allows customers a longer period for payment than in regular charge business.

Because of the strong potentialities for loss in instalment selling an appliance dealer should investigate each applicant thoroughly and care-

fully. Even when the dealer merely fills out a credit application form and the investigation is made by the financing agency, the dealer should satisfy himself that the applicant is a good risk. A financing agency that is eager for business sometimes will hesitate to discourage a dealer on questionable applicants.

There are four key questions which the appliance dealer must answer when considering an applicant:

Who is he?

Can he pay?

Will he pay?

If he does not pay, can collection be made?

The first step in finding the answers is to have the applicant fill out a detailed credit form. Standard application forms may be obtained by the dealer from stationery stores or credit associations, or perhaps will be supplied by his financing agency.

Verify the Facts

After the applicant has supplied the detailed information called for on the form, the appliance dealer should verify the facts and complete his investigation by checking with

his local credit bureau, if there is one in the community.

The credit bureau will have in its files records of the credit experiences, if any, that others have had with the applicant. It may also have newspaper clippings, court records, and other data.

If there is no credit bureau in the community, the dealer may obtain information from other stores and businesses, the applicant's place of employment, his bank, neighbors, or other persons who can furnish information for credit purposes.

After completing his investigation, the dealer should make a careful decision on the application. The factors to be considered are the applicant's *Character*—that is, moral sense of responsibility to pay a financial obligation; his *Capacity*, representing his earning power and ability to pay (it is important to determine any other instalment obligations of the applicant), and his *Capital*, referring to any property he owns.

In addition to carefully explaining the terms to the customer, it is wise for the dealer to give him a written statement of these terms. This is a

further guard against misunderstanding.

Following Up Delinquents

The appliance dealer should have a prompt and consistent follow-up policy on instalment payments that become past due. In one method that has been used successfully, the first notice is sent to the customer 1 to 15 days after due date of the payment. If payment is not made, second and third notices or telephone calls are made at intervals of 10 days. If the note is still unpaid after the third notice, a collector is sent.

A prompt follow-up is probably the best form of insurance against bad debt losses for the dealer. Experience has proved that a delinquent payment should be collected before the next payment falls due, for the customer who cannot meet one instalment payment seldom meets two.

Instead of merely threatening a customer who has fallen behind in payment or repossessing the appliance, the dealer should propose a plan by which matters can be straightened out. Perhaps a friendly talk will be enough and he will make the delinquent payment.

REFRIGERATION FOREMAN FOR SOUTH AMERICA

Large American Oil Company has excellent opportunity for a refrigeration and ice plant foreman with ten years experience.

Supervise erection and maintenance of all types of refrigeration equipment including ice plants, cold storage and frozen food lockers. Desire familiarity with both compression and absorption systems.

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VOLUME 52, NO. 9, SERIAL NO. 971, OCTOBER 27, 1947

Don't Be a Sucker!

NOVEMBER 1, 1947 is a remarkable date in refrigeration and appliance retailing history. "Regulation W"—which restricts instalment selling—expires on that day. It's an important occasion, because it signalizes the formal re-birth of competitive merchandising in this business.

The best appliance, commercial refrigeration, and air conditioning dealers will be conservative in their extension of time-payment plans to customers after that date, of course. But most of the newcomers to this business (along with quite a few forgetful old-timers) need to be warned that overextension of credit can lead to bankruptcy.

In recent years, credit managers have enjoyed a soft life. Nearly all bills have been paid promptly, and the credit managers haven't had much to do. Nowadays, however, business failures are increasing, and so are bad debts.

This fact should be a "red light" warning to all dealers. Sufficient reserves should be set aside now to compensate for guaranteed service obligations, and for possible repossession—which, up until now, have been negligible. Reserves amounting to 10% for bad debts—and another 10% for service, call-backs, and unexpected emergencies—should be retained from the profits on each sale of every appliance and refrigeration or air conditioning installation.

This is "old stuff" to veteran dealers who haven't forgotten their early lessons. But to neophytes in this game, and to somnolent old dealers, this advice is especially directed. There'll soon come a time when customers will lose their nerve, their capital, their incomes, or all three. Then repossession will re-occur.

So tremendous is the demand (and so inadequate is the supply) of most refrigeration and air conditioning products, along with the most-wanted home appliances, that it seems unreasonable to suppose that very many dealers will go hay-wire when they get a chance to extend time-payment "terms" after Nov. 1.

There's always a rotten apple in every bushel basket, however, and one or two uninformed dealers in any major trading-area can upset the apple-cart for their cannier or more experienced brethren. Too-generous financing terms will whiplash back too quickly when ample down-payments aren't demanded. Every experienced dealer should recall that cardinal principle. Repossessions of "stuff" a dealer has sold and crossed off his books can cut the heart out of his profits.

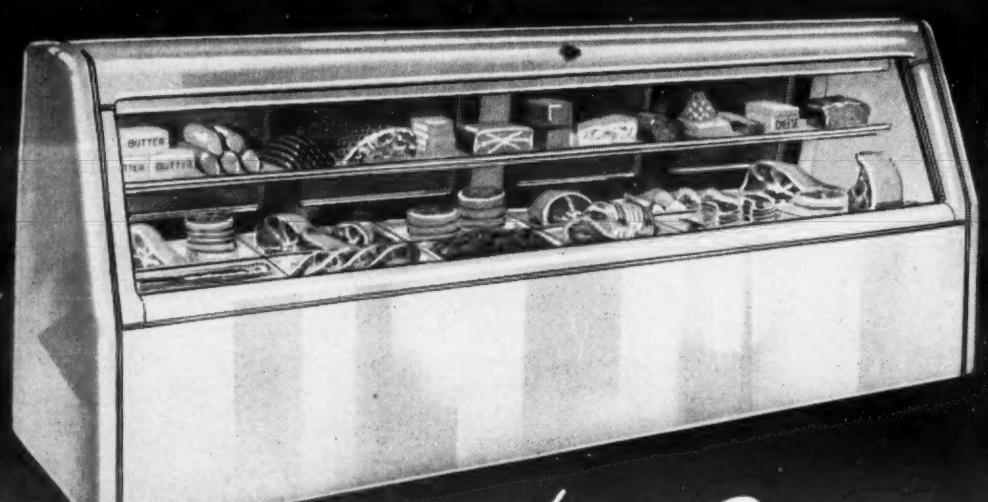
It may not be wise to accept less than 20% of the retail price as a down payment, nor to extend "terms" longer than 30 months. As a matter of fact, the best dealers we have interviewed recently plan to offer 25% down, 24-month payment plans.

To be sure, if a national credit financing concern offers to take a dealer's "paper" off his hands on more generous "terms," that's a horse of a different color. The major national time-payment financiers who serve our industry know what they're doing, it can be presumed. Also, they assume the major risks.

But local banks—which are bidding for this newly re-awakened bonanza of time-payment credit business in many areas—often are inexperienced. They may lack perspective and "know-how." So, in their eagerness to "cash in" on the expiration of Regulation W, they may lead too many trusting dealers astray by blithely suggesting "20% down and 36 months to pay" or even longer terms and 10% down payments. Prediction: both the dealer and the bank will regret it.

Moral: Put your trust in *experience* when assuming time-payment obligations. Don't go haywire when you extend credit. Your greatest obligation—to the customer, the manufacturer, and yourself—is to stay in business.

Refrigerated Display Cases of Distinction



by Bally

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AVOIDING THE "BUGABOO" OF HIGH PORCELAIN REJECTS HAS PERMITTED INCREASED PRODUCTION AND WE ARE TAKING ON SOME NEW DEALERS. YOUR INQUIRY IS INVITED.

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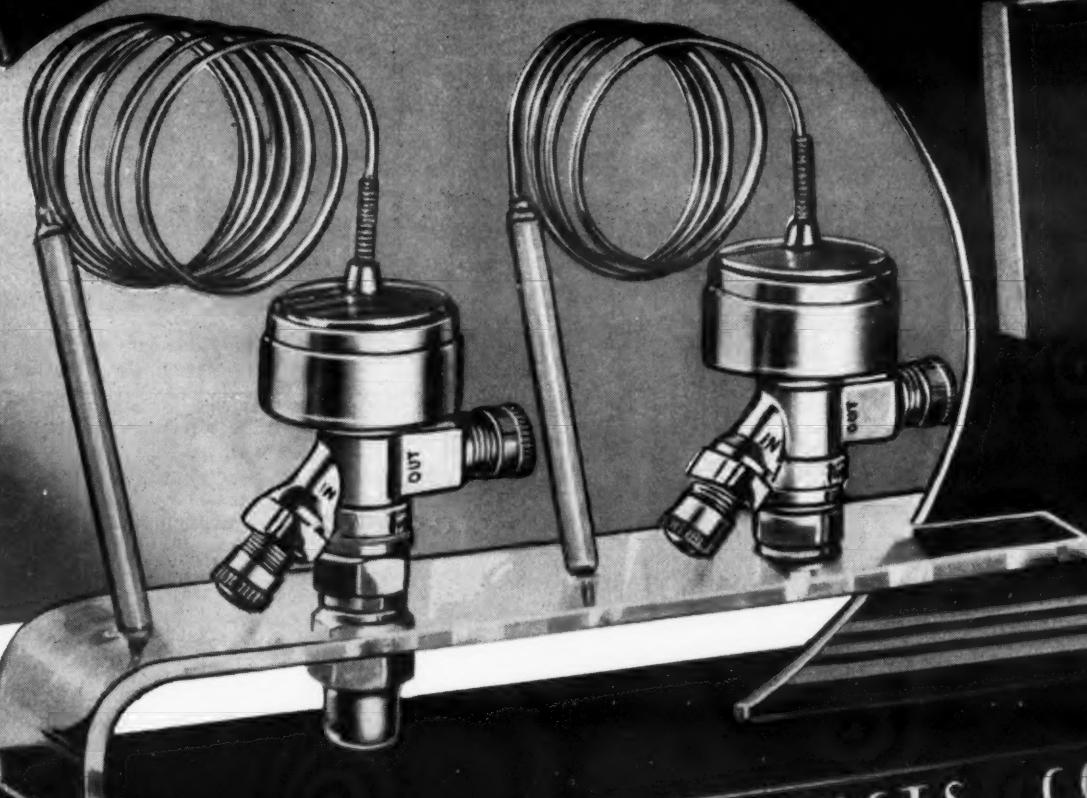


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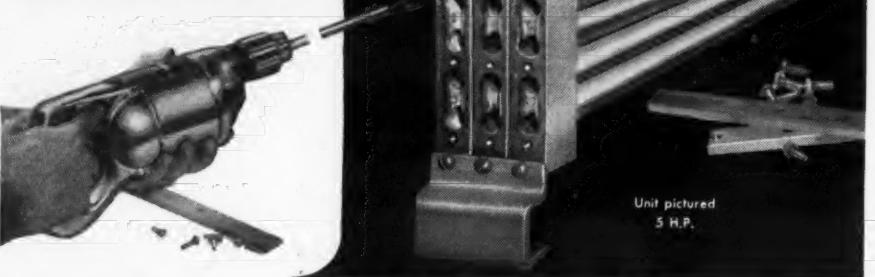
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Unit pictured
5 H.P.

HM units combine two features never before obtainable in tube-within-a-tube water-cooled condensers: (1) They're CLEANABLE—the water tubes are easily accessible at both ends for the spiral cleaning tool to restore the interior water surfaces to "new-unit" efficiency. (2) A TRUE-COUNTER-FLOW relationship is achieved between the coolant and the refrigerant through a unique seamless copper tube-within-a-tube construction that makes obsolete most types of similar water-cooled condensers. Thus, water and space requirements are reduced substantially and a most economical operation is obtained.

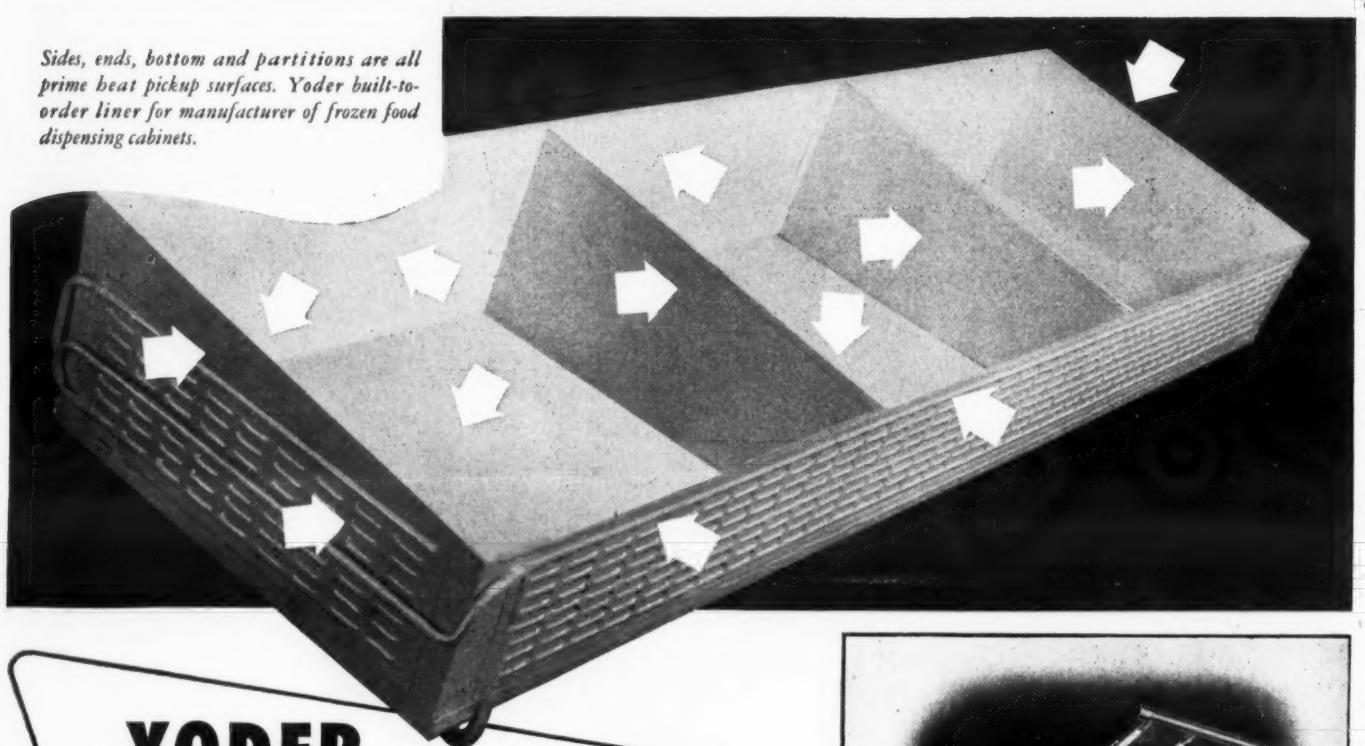
Seamless Copper Tubes
Brass Headers Machined and Brazed

HM Condensers available
from $\frac{1}{2}$ to 10 H.P. from
wholesalers in principal cities.



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REFRIGERATION PLATES
LINERS • SHELVES • PLATE BANKS

New System of Numbering Speeds Handling, Simplifies Inventory for Parts Wholesaler

LOS ANGELES—Three major improvements were gained when Refrigeration Service, Inc., completely remodeled and redesigned its stockroom recently, Lawrence P. Roth, owner, declared.

These improvements are:

1. A simple and logical parts numbering system for identifying parts.
2. An easy and rapid means of locating parts in the stockroom.
3. A simple method of inventory control.

Mr. Roth explained that his refrigeration supplies wholesaling firm had made no important change in the layout of its quarters since they were first occupied in 1930.

Originally the building contained 6,000 sq. ft. and the parts counter was only 15 ft. long, he said. About 18 months ago, the firm added 4,000 sq. ft. to its plant and decided to redesign the entire stockroom, including bins and counter.

"The new design gives us 30 ft. of counter space as well as an adequate office for the use of our stockroom manager," he asserted.

As for the major improvements, Mr. Roth declares:

"Having used manufacturers' part numbers for many years with a multitude of troubles due to duplication of numbers, we decided to design our own numbering system."

"Experience drawn from other industries indicated that a number in which the sequence of digits was



Large and modern, the new counter at Refrigeration Service, Inc., Los Angeles parts wholesaling firm headed by Lawrence P. Roth, measures 30 ft. in length, a marked contrast with the original counter shown below.



When Refrigeration Service, Inc., went into its present quarters back in 1930, the counter was only 15 ft. long.

broken by a letter was easier to remember as well as copy, and so we evolved such a system.

"Our entire inventory was divided into 11 basic classifications, each so different that there would be little question in which classification any particular part should belong.

"We then picked 11 letters, after eliminating all letters which could be confused with numbers, and assigned one to each basic classification.

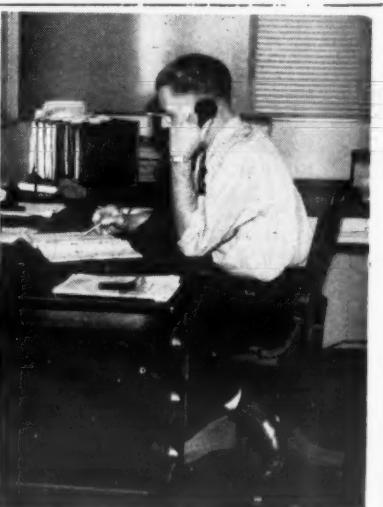
"It was next decided to use a maximum of two digits as a prefix and three as a suffix so that the maximum catalog number would be 99A999.

"Using 11 classification letters, this gave us a total of over 1,000,000 numbers without duplication, which, of course, will never be needed.

"The prefix numbers from 1 to 99 represent sub-classifications under each letter and the suffix numbers from 1 to 999 are the actual numbers of the parts.

"No particular system was followed in assigning these suffix numbers except for a consideration of their place in the storage bins.

"Ample space was left around each group of suffix numbers assigned to allow for expansion so that numbers (Concluded on next page)



In adding space and remodeling its setup, Refrigeration Service provided office space for the stockroom manager.

REFRIGERATION PARTS
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- Condensers (Air and Water)
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- Controls
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- Float Valves
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Stock Bins Numbered

(Concluded from preceding page)
of similar parts could be grouped together.

"To improve the method of handling parts, all stock bins were replaced by those of new design. Each bin section is 3 ft. wide, 15 in. deep, and 7 ft. high, with an additional 2 ft. on top for reserve stock.

"A bin section contains three vertical rows of bins with shelf supports on 6 in. centers. Shelves are removable so that vertical space can be arranged to any multiple of 6 in.

"Eight compartment drawers, made to fit a 6-in. section, have removable dividers to provide adjustable spaces. Bin sections are numbered vertically, beginning at top left, descending each of the three rows, and ending at bottom right.

"Such an arrangement makes it possible to change the spacing where necessary with the least possible moving of stock. There are no separate bin numbers, each bin space carrying the catalog number of the item which it contains.

"For this reason, we used some care in originally assigning catalog numbers so that items could be stored as economically as possible, small parts for drawers being grouped together.

"Catalog numbers do not run consecutively through the entire stockroom, but bin sections or groups of bin sections are consecutive. By painting the bin number series on the ends of each aisle, specific catalog numbers are easily and quickly located.

"Our catalog numbers are added to incoming orders which do not contain them and thus it is easy for a comparatively inexperienced person to fill orders quickly and correctly.

"For inventory control we use a simplified form of perpetual inventory.

(This form is a 4 by 6 in. card—one card for each part. The main body of the card is divided into two major sections. On the left are three columns that show the date, order number, and quantity of material ordered.

(To the right of this column are a series of small sections with four lines to each section. These lines, in vertical order, show beginning inventory, received, total, and sales.)

"When an order is placed, the remaining stock is counted and the figure becomes the beginning inventory.

"Orders are entered in the left-hand column of the inventory card and when received the quantity is noted under 'received,' in the right-hand section and a total entered below it.

"When the next order is placed, the 'beginning inventory' is noted at the top of the section below. When this figure is subtracted from the total just above it, the remainder is entered under 'sales' and represents the sales for the period between orders.

"Turnover figures can then be accumulated from these 'sales' figures to be used to determine maximum and minimum stock.

"A Wheeldex unit, in which the inventory cards are attached to a circular revolving drum, is used for this inventory card file. It speeds up the work of making entries. Cards are filed by our catalog number rather than alphabetically in order to avoid confusion and difficulty with nomenclature.

"The last, and very important link in this system, is a master file of all our manufacturers' catalogs. Opposite each item which we carry, we show our own catalog number so that we can obtain our own number when only the manufacturer's number is given to us.

"In connection with our inventory control system we are now working on a method which will automatically detect shortages in stock so that quantities can be held accurately within the maximum-minimum limits set for each item."

Method of Perpetual Inventory on Parts Has Been Simplified by Wholesaler

MAX.			SUPPLIER			REFRIGERATION SERVICE INC. WHEEDEX FORM R10497		
MIN.			SCHULTZ TOOL & MACHINE ORANGE CALIF.					
MATERIAL ORDERED	ORD. NO.	QUAN.	INVEN. BEGIN.	DATE	DATE	DATE	DATE	DATE
7/31/46	159	95	7/31/46	87				
8/1/46	231	200	RECEIVED	8/3/46	95			
10/3/46	417	200	TOTAL		182			
			SALES		142			
			INVEN. BEGIN.	8/2/46	40			
			RECEIVED	8/30/46	200			
			TOTAL		240			
			SALES		221			
			INVEN. BEGIN.	10/3/46	19			
			RECEIVED					
			TOTAL					
			SALES					
COST	ITEM	NET	CAT. NO.	MFR. PART NO.	BIN LOCATION			
1.95	SCHULTZ SEAL RING PULLER	—	16T1	—	LIST	—	—	—

New bin sections were installed as part of the Refrigeration Service remodeling. Each bin carries the part number, assigned in rotation.

An important part of the inventory control system employed by Refrigeration Service, Inc., is this 4 by 6 in. Wheeldex card. Filed by the catalog number in the lower left, it shows the supplier, amounts ordered, inventory, sales, and the name of the part.



Inventory cards are attached to a revolving drum, which speeds up work of making entries on orders, shipments, inventory, and sales.

ONE AMAZING REFRIGERATOR THAT SATISFIES 101 MARKETS!

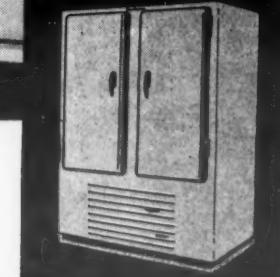
NOTHING ELSE LIKE IT—MADE ONLY BY JORDON

JORDON 14/6

6 Cu. Ft.
FREEZER-LOCKER
•
MAKES ICE CUBES
FAST—16 lbs.
IN ONE FREEZING
•
14 Cu. Ft.
STANDARD
REFRIGERATION



Only ONE
CONDENSING UNIT
ONE SIMPLE
CONTROL



Handsome, streamlined
design with
exceptionally compact
overall dimensions.

EVERY SALES RECORD SMASHED.
PRODUCTION DOUBLED TO MEET NEW DEMANDS.

Because it was timed right, planned right, and priced right, the JORDON 14/6 has taken top refrigeration sales honors from coast to coast. Jordon dealers, department stores, appliance dealers, building supply houses and other Jordon outlets have found that the smart combination of features in the JORDON 14/6 meet a cross section of pent up demands that cannot be satisfied by either the largest domestic refrigerator

with limited locker area, or any standard reach-in. That is why the JORDON 14/6 fits so neatly into 101 varied markets where a compact, simple, economical refrigerator of this type is absolutely essential.

And now that there is an increased flow of essential manufacturing materials we have been able to greatly increase our 14/6 production line. From now on all demands can be met.

SELL NEW FIELDS • OPEN NEW MARKETS • INCREASE PROFITS!
The JORDON 14/6 enables the dealer to bridge the gap between commercial and domestic markets and to sell prospects in both groups. The 14/6 is an ideal unit for large homes, boarding houses, farms, country estates, clubs and other prospects on the 'fringe' of the ordinary domestic market—and is equally desirable for all eating places, cafes, hotels, institutions and hospitals. No other refrigerator is so versatile or comes anywhere near the MORE BUSINESS and MORE PROFITS—get in touch with JORDON now!

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Make your commitments now in order to cash in on an extra volume of Holiday business.

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Oct 27-1947

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DIVISION OF
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CHICAGO 36, ILL.

Does Heating Up of Drier Indicate Removal of Moisture?

Heat Isn't Sure Test, Contends Dr. Walker

MARINETTE, Wis.—Heating up of a refrigerant drier does not mean that it is removing moisture from the refrigerant.

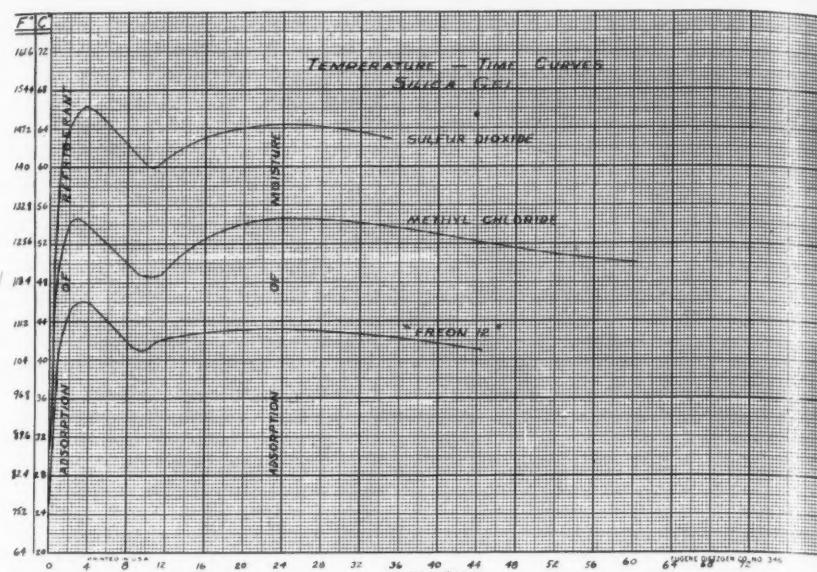
This conclusion is drawn by Dr. Walter O. Walker, director of research and development for Ansul Chemical Co. here, following several tests of driers filled with silica gel, activated alumina, and Drierite, using methyl chloride, sulphur dioxide, and "Freon-12."

Driers will warm up when refrigerant and moisture come in contact with them, but according to Dr. Walker, a drier filled with wet silica gel likewise became hot when dry methyl chloride was admitted to it.

Drierite heats up only when it comes in contact with moisture, but this heat is usually overcome by the refrigerating effect of liquid refrigerant's evaporating in the drier, and thus, concludes Dr. Walker, "the heat test will not prove a Drierite-filled drier unit good or bad since it will not heat up in either case."

"There seems to be no doubt of the validity of the observation that a drier unit will heat up during use," he states. "The assumption that this was necessarily related to the removal of moisture was open to question."

"In order to study the heat effects occurring in a drier, a definite volume (approximately 500 cc) of



Absolutely dry refrigerant can cause a drier to warm up as shown above in the initial stage of this graph prepared by Dr. Walker of Ansul. Note that the temperature curves did not rise when "wet" refrigerant was admitted; in fact, the curves drop slightly at this point.

reactivated drier was placed (while still warm) in a flask insulated with expanded vermiculite contained in a 1/2-gal. Dewar flask," explains Dr. Walker.

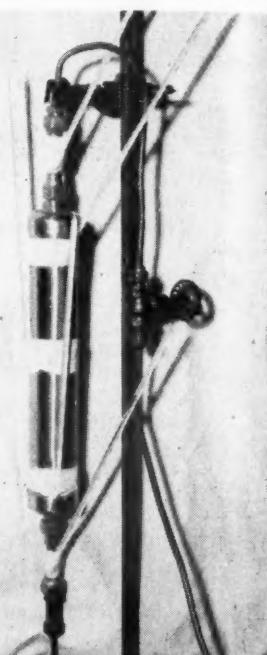
"A thermometer, placed in the exact center of the drier mass, was read at regular time intervals for the purpose of preparing temperature-time curves. The drier was allowed to cool before tests were started.

RUNNING OF TESTS

"Dry gaseous refrigerant (refrigerant grade) was led in through a tube at the bottom of the flask. Wet gaseous refrigerant, prepared by bubbling through water, was introduced into the flask through the same tube employed for the dry gaseous refrigerant. Temperature-time data was taken.

"The procedure employed was to introduce the dry refrigerant at a standard rate of low until the temperature had reached a maximum and had begun to drop. The dry refrigerant was cut off, and wet refrigerant introduced. Temperature-time data was taken until the temperature remained relatively constant."

Study of the curves prepared for silica gel, activated alumina, and Drierite, indicate, said Dr. Walker, that there is an initial heat effect caused by adsorption of the refrigerant, except with Drierite. Sulphur

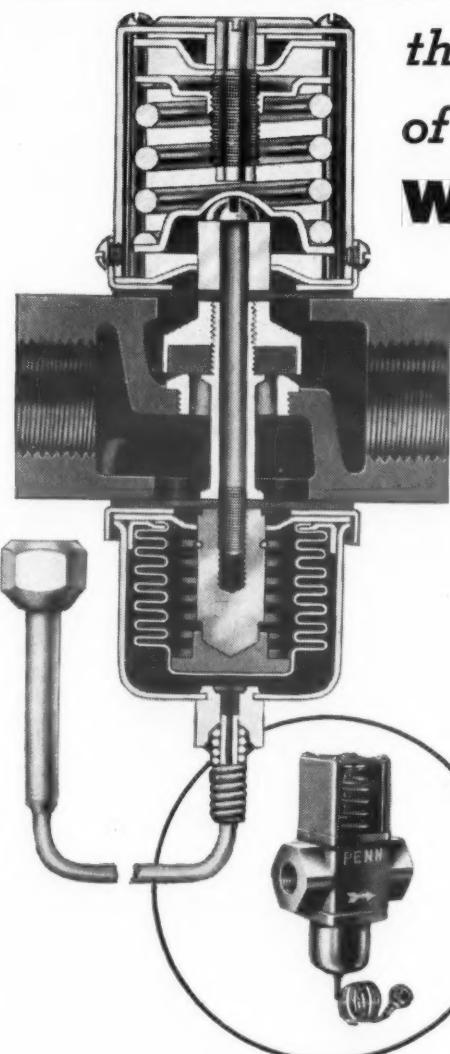


Five thermometers were taped on a drier in vertical position to determine just where the heating effects occurred.

dioxide creates the greatest heat, "Freon-12" the least.

Moisture also causes a heat effect, by adsorption in silica gel and

(Concluded on next page)



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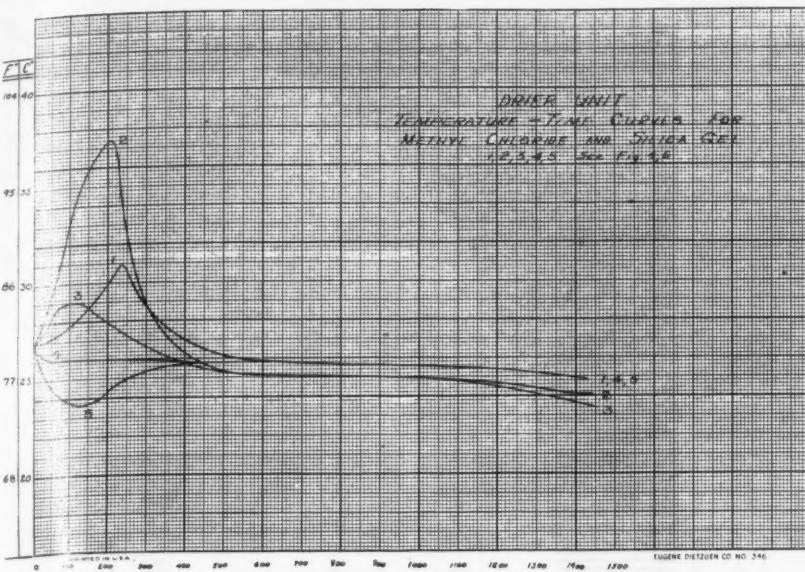
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Chart Shows Heat Reactions of Drier

Each of the five curves here represents the temperature indicated by a thermometer taped on a drier as illustrated on the opposite page. No. 1 thermometer was on top, No. 5 on the bottom.

Dry Refrigerant Can Heat Drying Agent--

(Concluded from preceding page) activated alumina; by chemical reaction in Drierite. Actually, of course, the heat effect of refrigerant and moisture occur simultaneously, points out Dr. Walker.

"In order to determine the location of heat effects in a drier unit, one charged with silica gel was placed in a vertical position with the inlet downward and to it were taped five thermometers with the bulbs resting against the metal. The tape also served to insulate the bulb from the surrounding air.

ADMITTED AT BOTTOM

"Liquid refrigerant grade methyl chloride was admitted at the bottom by opening the valve of the cylinder. Flow rate was maintained by using a cold receiving cylinder, which was connected by $\frac{1}{4}$ in. copper tube to the outlet of the drier unit. About 20 minutes were required to pass approximately 5 lbs. of refrigerant through the unit.

"Immediately after the valve to the storage cylinder was opened, the upper part of the unit became quite warm (in one test where the rate of

entrance of methyl chloride was restricted 50° C. (122° F.) was reached), while the lower part, due to refrigerating effect, was cold. The center of the unit was slightly warm.

"Two heat effects occur in the unit, refrigeration and adsorption," continues Dr. Walker. "The liquid refrigerant enters the bottom of the unit and evaporates while the gas so produced quickly passes upward through the silica gel. Adsorption liberates heat which is apparent in the middle and upper portions of the unit, while at the bottom it is more than neutralized by the refrigerating effect.

"However, the heat of adsorption is equivalent to the heat of evaporation of the refrigerant, with the result that the temperature of the entire unit tends to revert to its starting temperature as soon as the temperature effects (hot at the top and cold at the bottom) neutralize one another. The heat of adsorption is uniform throughout the entire length of the silica gel," he said.

"In order to determine whether wet silica gel will heat up when methyl chloride gas is admitted to it, approximately 200 grams of this

drier was exposed for several hours to an atmosphere of 80% relative humidity. An additional 6% moisture was adsorbed during this period.

"This wet silica gel was placed in a drier unit and refrigerant grade methyl chloride admitted as a gas in order to eliminate any refrigerating effect due to liquid refrigerant. The wet silica gel became hot immediately on admission of methyl chloride gas despite the large amount of moisture adsorbed by it."

Similar results should occur with activated alumina, and sulphur dioxide and "Freon-12" should provide the same reaction with either drier, Dr. Walker believes.

Because Drierite has no heat of adsorption, wet Drierite should not heat up when dry refrigerant is admitted to it, he adds.

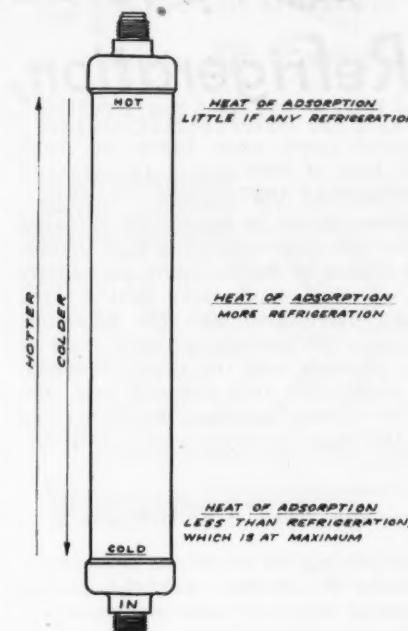
MAJOR CONCLUSIONS

From these tests Dr. Walker draws two major conclusions.

1. Whether wet or dry, silica gel and activated alumina heat up when the refrigerants sulphur dioxide, methyl chloride, and "Freon-12" come in contact with them. Therefore, a hot drier unit does not mean that the drier is removing moisture. The heat test has no value for silica gel and activated alumina.

2. Drierite heats up only when moisture comes in contact with it. There is no heat due to adsorption of refrigerant. Therefore, the heat test might indicate a good drier, but only if it were possible for the refrigerant to be admitted so slowly that the refrigerating effect is much less than the heat produced from the chemical action of moisture in Drierite.

"On checking this point with a

Where Drier Heats

Combined effects of adsorption and refrigeration in a vertical drier make the outlet end hotter than the inlet.

drier and 3.63 lb. methyl chloride containing 0.016% moisture by weight, no heat effect was observed. Calculation of the heat effects involved confirm this test and show that the refrigerating predominates over the chemical heat effect.

"Therefore, the heat test will not prove a Drierite-filled drier unit good or bad since it will not heat up in either case."

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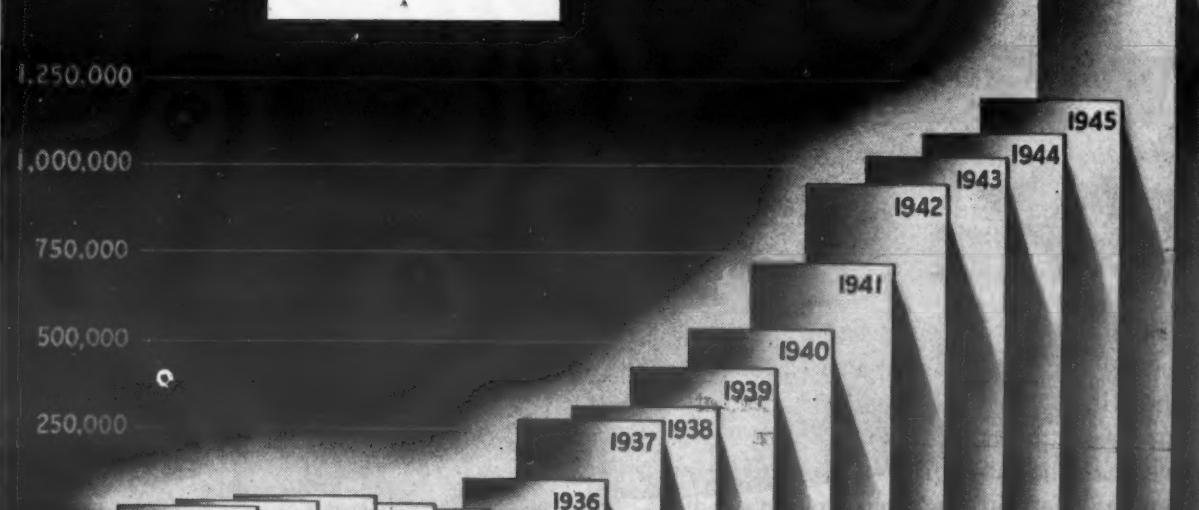
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Financial Growth

YEAR	NET WORTH
1930	\$ 25,830
1931	33,490
1932	34,732
1933	18,031
1934	12,997
1935	12,868
1936	118,475
1937	286,339
1938	321,970
1939	436,906
1940	529,227
1941	720,202
1942	916,425
1943	1,041,677
1944	1,137,477
1945	1,191,276
1946	1,726,812
1947	3,200,000 (Estimated)



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Losses on Fruits & Vegetables Lower In Stores Using Refrigeration, Govt. Finds

WASHINGTON, D. C.—Government experts studying waste and spoilage losses of fresh fruits and vegetables in typical self-service food stores found that average losses in stores equipped with refrigerated display cases was 3.8% less than in those without refrigeration.

They also discovered "substantial evidence that the use of refrigerated cases reduced the spoilage loss on many individual commodities."

But a report on the study declared that although the use of mechanical refrigeration in the retailing of fresh fruits and vegetables shows considerable promise, "improvements in design and appearance are desired."

"Some of them probably will be made fairly soon," the report said. "These should offer greater utilization of the refrigerant and provide a more desirable degree of slope of the rack, thus permitting a more attractive arrangement of displays of produce."

The study was made by the Bureau of Agricultural Economics of the U. S. Department of Agriculture in cooperation with American Stores Co., Philadelphia.

The bureau made weekly spot checks of losses in four of the concern's bulk stores in northern New Jersey which operated their fruit and vegetable departments without refrigeration. These checks were made in the year beginning December 1945.

Weekly records of two stores in Philadelphia which had refrigerated

display cases were taken in April and June of 1946 and in January and February of 1947.

Three kinds of waste and spoilage were recorded: concealed loss, including losses in the shipping containers in which produce was sent to the store; mark-down loss, the difference between the prevailing retail value of the produce and the price at which it was sold; and garbage loss, the value of the produce which spoiled in the store and was completely discarded.

Average Loss Was 6.9%

Reporting on results of the survey, Donald R. Stokes said the annual average rate of loss in the stores without refrigerated cases was 6.9% of the retail extension value of the produce handled. Retail extension value was defined as the cost of the produce plus the anticipated gross margin—sometimes called mark-up.

The average loss on fruits was 6.6%, on perishable vegetables 8.5%, and on "hardware" vegetables 2.9%. Most of the 6.9% loss was garbage loss, which amounted to 4.3%. Mark-down losses totaled 1.5% and the concealed waste loss 1.1%.

"However," Mr. Stokes' report continued, "the losses amounted to 7.4% of value of actual sales. That is, a \$74 spoilage loss was incurred for each \$1,000 of actual sales."

Waste losses in refrigerated stores

were "significantly lowered," Mr. Stokes declared.

"The average waste and spoilage loss in the stores that were equipped with refrigerated cases amounted to 2.7%," he said. "This includes concealed loss, 0.4%; mark-down loss, 0.8%; garbage loss, 1.5%."

"Data on which these figures are based was collected in the relatively cool months of January and February 1947, and in April and June, 1946. For comparable months, the average waste and spoilage loss rate in the bulk stores without refrigeration was 6.5%."

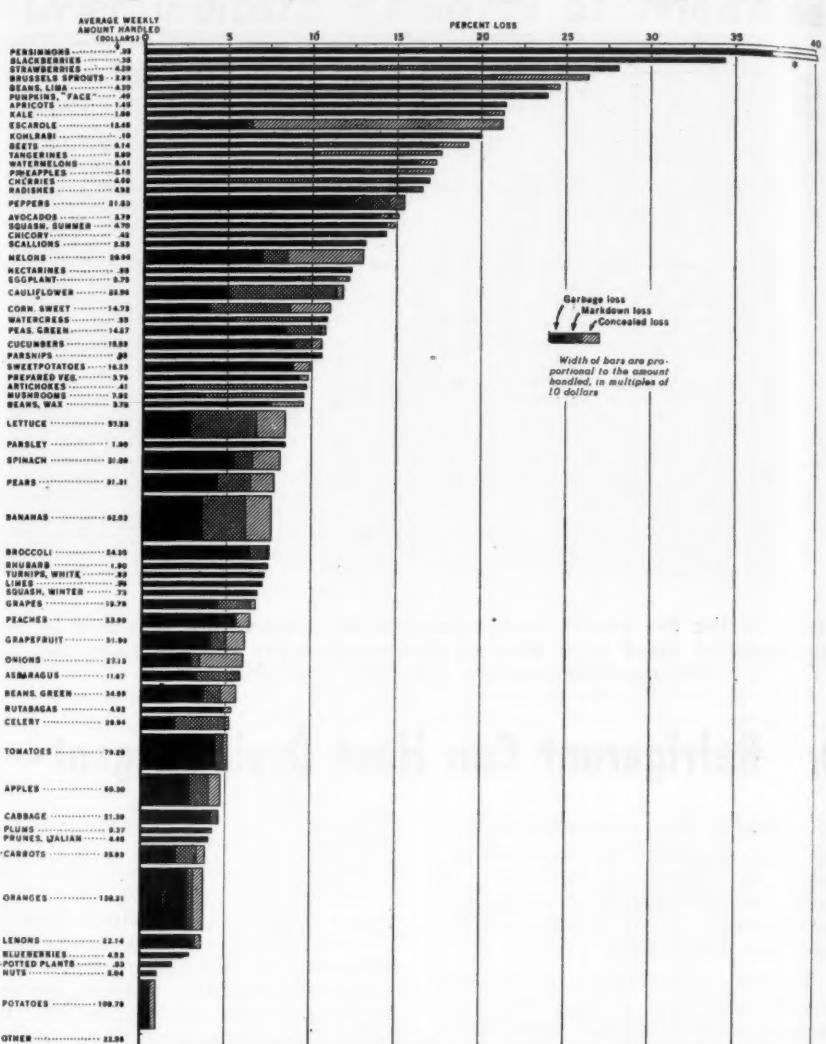
"Other factors which could not be controlled under normal conditions also affected waste and spoilage. Among these are personnel and the type of customers who patronize the store."

"Another variable that could not be controlled entirely was the general average quality of the merchandise handled. It appeared that quality of produce delivered to the two refrigerated stores was in some instances higher than the average quality of merchandise delivered to the conventional type non-refrigerated stores."

"This is indicated by the fact that the concealed loss rate was only 0.4% in the refrigerated stores, compared with around 1% in the bulk stores."

"Because of these uncontrolled variables, it is not possible to claim that the differences in waste and

Average Weekly Loss Without Refrigeration



Average weekly losses (garbage, markdown, and concealed) in four stores in northern New Jersey not using refrigeration for fresh fruits and vegetables from December, 1945, through November, 1946, are indicated on this government chart.

spoilage . . . was entirely due to refrigeration. However, this difference is a rough indication or relative measure of the value of refrigeration. Moreover, there was substantial evidence that the use of refrigerated cases reduced the spoilage loss on many individual commodities."

Mr. Stokes said the value of refrigeration also is indicated by comparing the weekly average loss rates in the two types of stores.

"The weekly average loss rates in the two stores equipped with refrigerated cases was 2.2, 5.6, 2, and 2.1% for the weeks ending April 13 and June 15, 1946, and Feb. 1 and Feb. 8, 1947.

"Weekly loss rates . . . were 6.3 and 7.1% in two conventional-type non-refrigerated stores for the week ending Jan. 19; 3.3 and 5.2% for the week ending Feb. 16; 7.9 and 8.1% for the week ending May 18; and 7.7 and 9.6% for the weeks ending June 22 and June 29, 1946."

Turning to losses in refrigerated stores by commodities, Mr. Stokes reported that spoilage losses in excess of 5% were found for lima beans, eggplant, pineapples, parsnips, kale, sweet corn, asparagus, peaches, avocados, tangerines, rutabagas, beets, radishes, peppers, pears, and spinach.

"Some of these commodities were displayed in refrigerated cases and others such as rutabagas were displayed in a non-refrigerated section of the produce stand," the writer explained. "Generally the more perishable vegetables usually were displayed in the refrigerated cases.

"Fruits and hardware vegetables ordinarily were not refrigerated. Therefore, a better indication of the value of refrigeration can be obtained by comparing the average spoilage losses only on perishable vegetables in refrigerated stores with losses on similar vegetables in non-refrigerated stores. This was done for the first two quarters.

"The average loss rate on perishable vegetables in the refrigerated stores during this period was 3.5%, less than half the average 7.6% for non-refrigerated perishable vegetables.

"The concealed loss was 0.5% in the refrigerated stores, 1.3% in the non-refrigerated. This indicates that the quality of perishable vegetables received in the refrigerated stores averaged higher than in the non-refrigerated stores.

"The mark-down loss rate was 1.8% in both groups of stores. The difference in garbage loss was greatest. For refrigerated stores, it was 1.2%, compared with 4.5% for non-refrigerated stores.

"No great difference was found in the relative importance of the perishable vegetable groups handled in the two types of stores. This group

accounted for 40.2% of the total retail value of produce handled in the refrigerated stores and 43.4% in the non-refrigerated stores."

Among the most important perishable vegetables, the loss rate in the refrigerated items was, in nearly every instance, significantly lower than in the non-refrigerated items, according to Mr. Stokes. The average loss rate on lima beans was said to be considerably less in the refrigerated items, although still rather high in relation to other items.

"The average spoilage rate on eggplant, kale, sweet corn, beets, radishes, peppers, celery, rhubarb, summer squash, green beans, lettuce, cauliflower, prepared vegetables, cucumbers, tomatoes, cabbage, and green peas was definitely lower in stores equipped with refrigerated cases," the report said.

"Savings in waste due largely to refrigeration were most apparent in the large-volume items such as tomatoes, lettuce, green beans, and celery. In a few cases, particularly asparagus and spinach, the spoilage rate averaged greater in the refrigerated stores than in the non-refrigerated stores.

"The reason for these exceptions is not known. They may have been due to differences in quality of the merchandise or to other factors on which further research would be helpful.

Spoilage Markedly Lower

"On the whole, however, it is obvious that spoilage losses on the highly-perishable commodities in the refrigerated stores are markedly lower.

"From the retailer's standpoint it is more important to reduce his waste and spoilage cost by a small percentage in the high-volume items than it is to get a relatively greater percentage reduction in the less important items."

Savings to be gained from refrigeration are difficult to show except in a rather rough way, Mr. Stokes asserted. He said it may be possible for a produce department with a relatively small volume of sales to use one refrigerated case economically and for stores with larger volume to use two, three, or even more.

It was explained that the refrigerated stores in which the survey was made used two cases each. Initial cost of each case was around \$1,000 and the cost of amortization is usually written off during the first five years, the report stated.

"Assuming the weekly volume of business in perishable vegetables is approximately \$500," Mr. Stokes' report went on, "the cost of depreciation of the two refrigerated cases would approximate 1.5% of the retail value of the vegetables refrigerated.

(Concluded on next page)

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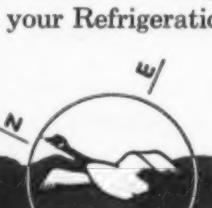
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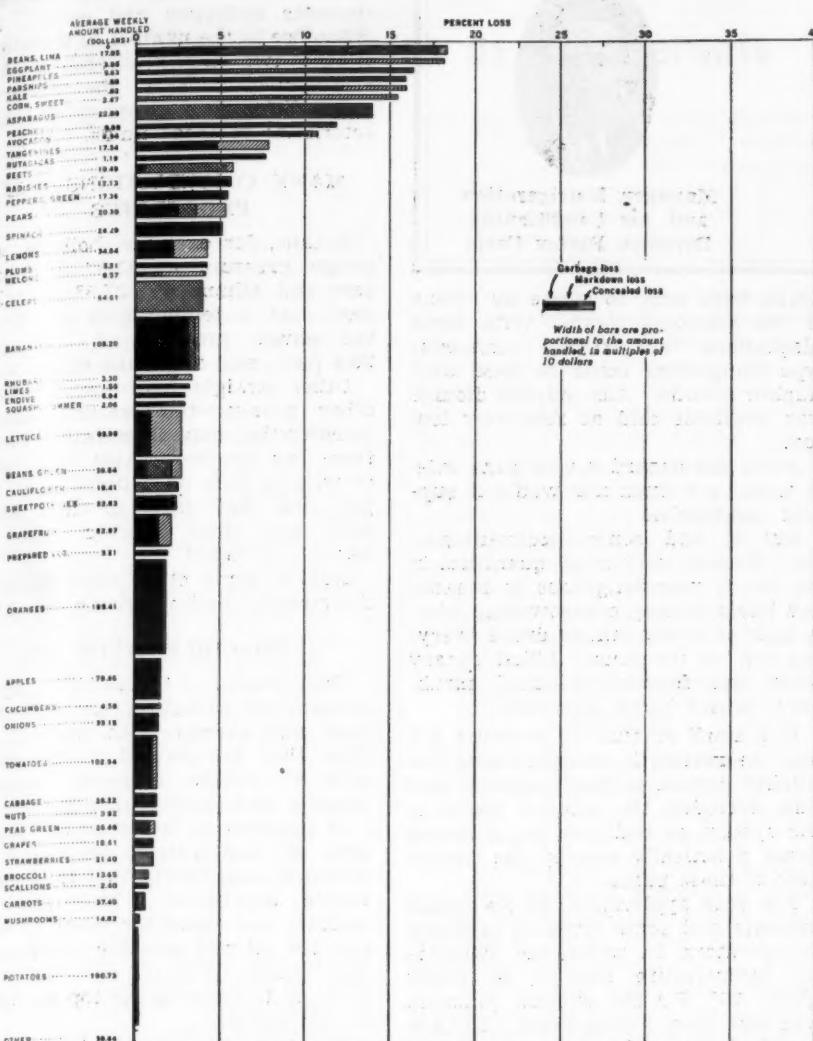
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Refrigeration Cuts Weekly Loss for Stores



Compare this chart, showing average weekly losses of fruits and vegetables in two Philadelphia stores employing refrigeration, with the losses shown in the chart on opposite page.

Cost vs. Spoilage--

(Concluded from preceding page)

"Estimates on the cost of maintenance of the cases run as low as 0.25% of the retail value of produce retailed from the cases. This indicates that the savings in waste and equipment and the cost of operation would be around 1.5 to 2%."

"It would seem logical, therefore, that savings in waste and spoilage on produce retailed from these cases should exceed 1.5 to 2% if refrigeration is to be justified. Savings above 2% should permit a lower cost of distribution."

"Data obtained in this survey indicates that the savings in waste and spoilage losses through use of refrigerated cases reached about 3%. When the average life of a refrigerated case exceeds five years, the average rate of amortization would be somewhat less."

Mr. Stokes had pointed out earlier in the report that growers, shippers, transportation agencies, and wholesalers are familiar with the necessity for refrigerating fresh fruits and vegetables to maintain freshness and quality.

Little Refrigeration Used

"Pre-cooling before shipment, refrigeration in transit, and cold-storage warehouses are extensively used in the distribution of fresh produce," he noted. "Until recent years, however, little refrigeration was used in retail stores."

"Some retailers have cold-storage boxes in their stores, and probably many more have the 'produce barrel.' But the majority have avoided the additional costs of refrigeration, in hope that a rapid turn-over would minimize waste and spoilage losses."

"Many retailers who lack special refrigeration facilities use their meat refrigerators for overnight and weekend storage of some perishable vegetables."

"A recent development in refrigeration for retail stores is the use of open-faced refrigerated cases. These cases are manufactured in 11-ft. sections. The number required per store depends upon the volume of fresh fruit and vegetable sales."

"Each unit has a well-lighted canopy running the entire length, with a mirror backdrop to increase the illumination and the attractiveness of produce display. A temperature of about 40° is usually desired for commodities for which the sales turn-over is relatively rapid. Additional display space is provided for items which require no refrigeration."

Although bulk produce is usually displayed in the cases, pre-packaged fresh fruits and vegetables also are frequently merchandised from them, Mr. Stokes noted. He said a study

by the Department of Agriculture showed the difficulty of obtaining desirable refrigeration at various points in cases so used, "due mainly to the fact that pre-packaged produce interfered with proper air circulation."

In the section of the report dealing with losses in stores not using refrigerated cases, Mr. Stokes pointed out that the annual average dollar loss by commodities is perhaps more significant to the retailer in his consideration of possible methods of reducing waste and spoilage costs than are his percentage losses.

"Bananas ranked first in value of average weekly losses—amounting to \$7—although they ranked 40th in percentage losses," he said. "The bulk of the waste was garbage loss. However, the loss may not be typical for this commodity, since many of the bananas imported into this country during the last few years have been of low grade."

The seasonal variation in total average weekly loss rates of these retail food stores does not appear to be so great as might be expected, Mr. Stokes wrote.

"The average weekly loss rate was definitely greater during the second quarter than during the other quarters. The average rate for the first quarter was relatively low, probably because cool weather helped minimize waste and spoilage."

"On the other hand, the relatively higher losses during the second quarter apparently can be attributed to the fact that fruits in the retail stores seem to break down more rapidly during these months—probably because many of them have been held in storage for a considerable time. Then too, sizable quantities of highly-perishable items such as blackberries and strawberries appear on the market this quarter."

"The volume of produce handled during April, May, and June was somewhat less than that handled during other quarters of the year because the market supply of some important commodities such as stored fruits were limited and because the 'summer vegetables' were not yet on the market in volume."

Mr. Stokes began his report by noting that waste and spoilage loss is one of the main cost items in retailing fresh fruits and vegetables.

"While opinions differ considerably as to the extent of these losses," he said, "it is generally agreed that the country as a whole would benefit materially by reduction of such waste. In the long run the savings would be passed on to the consumers and back to growers."

In the course of the study, the Bureau of Agricultural Economics took weekly records of two stores in northern New Jersey in which pre-packaged produce was merchandised under refrigeration. Results were to be shown in a later report.

Air Conditioning, Commercial Dealer Opens New Showroom

MARSHALL, Tex.—Marshall's only exclusive air conditioning and refrigeration firm, Jones Brothers Refrigeration Co., 309 East Bowie St., who opened for business recently, has completed a new showroom.

The firm features engineering, installation, sales and service of air conditioning and commercial refrigeration equipment. Owners are Wesley Jones and Oscar B. Jones, Jr.

Friedrich Branch Office To Cover 14 Texas Counties

SAN ANGELO, Tex.—A branch sales and display office has been opened here by the Ed Friedrich Sales Corp. of San Antonio, manufacturer of all types of commercial refrigeration.

The new office, located at 2822 N. Randolph St., is managed by H. C. Green and Otis Reed, and covers a 14-county west Texas district.

Packing Firm Will Award Cold Storage Plant Contract Soon

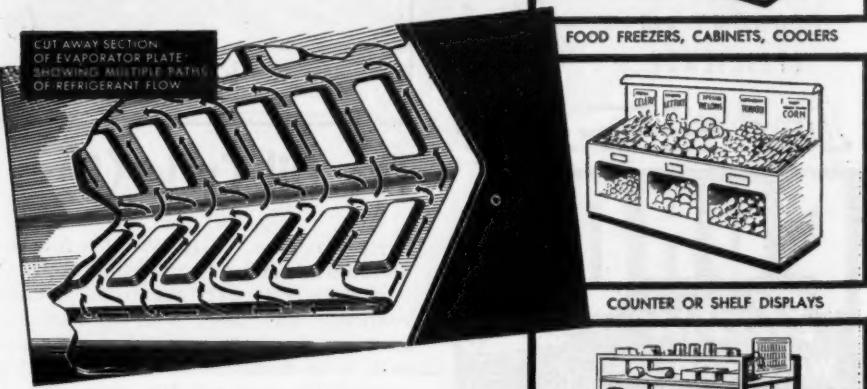
ORANGE COVE, Cal.—Bids have been received and contract soon will be awarded for construction of a cold storage building here for the B. H. and O. Packing Co. The one-story, reinforced concrete structure will be 212 ft. long and 94 ft. wide and will be roofed with asbestos.

The plans, prepared by Thomas C. Kendall, engineer, Los Angeles, provide for fiberglass insulation.

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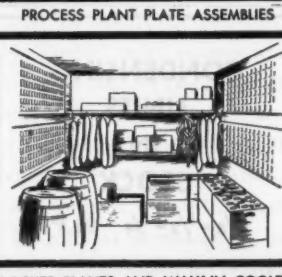
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Refrigeration Problems And Their Solution By P. B. Reed For Service and Installation Engineers

The Oil Cycle (2)

Even before World War I a few individuals had been "playing around" with "electric refrigerators." They realized that there was a need for such an appliance and that it would sell, if it could be made reasonably dependable and not too expensive.

They had nothing to go on except the large machines that were in common use for ice-making and cold-storage. Therefore, the small compressors were, in the main, foot-high copies and adaptations of the 100-ton

compressors and the refrigerants for the "electric refrigerators" were the same as those used in the large systems.

AVAILABLE REFRIGERANTS

These refrigerants were ammonia, carbon dioxide, and sulphur dioxide. Carbon dioxide was unsuitable for the small units because the very high pressures presented some hazards and required a prohibitively expensive construction.

Ammonia pressures were rather high too, especially when, a little later, air-cooled condensers were seen to be more desirable than water-cooled condensers. Moreover, the high latent heat of ammonia made it difficult to control the feeding of the very small amounts of liquid refrigerant into the evaporator, needed to furnish refrigeration for a small refrigerator.

SULPHUR DIOXIDE THE FAVORITE

So this just about left the field to sulphur dioxide, and it dominated that field for many years. It was an efficient refrigerant. Discharge pressures were moderate. Almost any material could be used with it.

Even though all these straight hydro-carbons consist of the two elements hydrogen and carbon, the difference in the number of the atoms of the two elements and/or their arrangement inside the molecule gives differences in many of characteristics of these fluids.

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.



MANY COMBINATIONS AND PROPERTIES

Butane, for example, boils at zero gauge pressure at 31.3° F. above zero and ethane at 127.5° F. below zero. At a temperature of 86° F. the gauge pressure of butane is 26.9 p.s.i., and of ethane 661 p.s.i.

Other straight hydro-carbons have other pressure-temperature characteristics that may differ rather widely from one another. Also they differ in weight, both as a liquid and as a gas, and they differ in their latent heat and their specific heats of vapor and liquid.

But in some other characteristics the straight hydro-carbons are alike:

1. MISCIBLE WITH OIL

They belong to the same family as mineral oil, gasoline, kerosene and they mix readily with mineral oil. Thus they are classed as "miscible" with oil, unlike ammonia, sulphur dioxide, and carbon dioxide.

If gasoline or kerosene are mixed with oil and stirred, they mix together so completely that there is no visible separation. Moreover, the mixture can stand for hours or days and the oil and gasoline or kerosene stay mixed. The oil does not separate out to come to the top nor to go to the bottom.

In addition, these liquids are "miscible in all proportions." They mix together just as readily whether the mixture consists of 10% gasoline and 90% oil, or 10% oil and 90% gasoline.

However, gasoline vaporizes more easily than oil. By this we mean that at ordinary room temperatures, gasoline evaporates rapidly and leaves the oil behind. To get the oil to vaporize rapidly we would have to heat it to a much higher temperature than room temperature. So the gasoline and oil could be separated by vaporizing the gasoline out of the mixture, leaving the oil practically free of gasoline.

STRAIGHT HYDRO-CARBONS

In looking around for other possible fluids that could be used as refrigerants, the refrigeration engineers and chemists very naturally thought of the "hydro-carbons."

As the name implies, these fluids are composed of, or based on, the elements hydrogen and carbon. Some of the straight hydro-carbons (those that contain only hydrogen and carbon) are butane, iso-butane, propane, propylene, ethane, ethylene, methane, and others less well-known, such as pentane, hexane, etc.

Butane molecules are composed of four carbon atoms and 10 hydrogen atoms, so its chemical symbol is C_4H_{10} . (Iso-butane molecules also consist of four carbon and 10 hydrogen atoms but they are arranged somewhat differently inside the molecule, and this difference in arrangement results in iso-butane having different characteristics than butane.)

Propane molecules are composed of three atoms of carbon and eight atoms of hydrogen and the propane symbol is, therefore C_3H_8 . Propylene is C_3H_6 ; ethane, C_2H_6 ; ethylene, C_2H_4 ; methane, CH_4 .

MIXING OIL AND MISCELLANEOUS REFRIGERANT

Exactly the same thing would be true if we mix oil with one of the hydro-carbons, butane, propane, ethane, etc. They are readily "miscible with oil in all proportions." They would not "settle out" (although they do not weigh the same) and would remain in solution.

The butane, propane, or ethane would evaporate out of the oil quite readily, for they boil or turn to a vapor at a much lower temperature than does oil. Thus, to separate oil from an oil-butane, oil-propane, or oil-ethane mixture, the mixture would be given heat and the butane, propane, or ethane would vaporize out.

If the mixture is warmed much above the boiling point of the butane, propane, or ethane, they would

(Continued on next page)

MUELLER BRASS CO.
Ful-Flo
REFRIGERATION FITTINGS



No Restriction in Flow Capacity

Mueller Brass Co. refrigeration fittings conform in every respect to S. A. E. standards with the exception of the bore. THE BORE IS MACHINED TO PERMIT A FULL FLOW EQUAL TO THE INSIDE DIAMETER OF THE TUBING USED, AND CONSEQUENTLY IS LARGER IN INTERNAL AREA THAN S. A. E. FITTINGS.

All fittings are accurately machined and of the

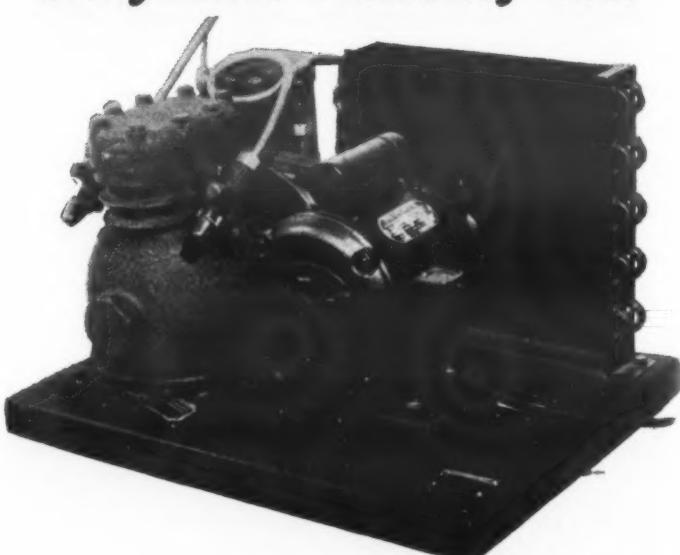
highest quality materials. All flare outlets are finished to the closest desirable tolerances.

Particular attention is given to the accurate machining of flared seats; they must be absolutely flat, smooth and concentric with the bore. All male flare threads are protected by heavy sleeves to prevent damage in shipping or handling.

FORGED Years of experience have conclusively shown that forged brass nuts and fittings are vitally essential in mechanical refrigeration and air conditioning because they require a dense metal structure that can best be obtained through forging.

STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

MULTIPLEX Refrigeration Condensing Units



NOW AVAILABLE

Complete with motors in
 $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, and $\frac{3}{4}$ HP sizes
Inquiries From Jobbers Invited

Multiplex Manufacturing Co., Berwick, Penna.

High Danger Factor Rules Out Wide Use Of Some Hydro-Carbons as Refrigerants

(Continued from preceding page)
quite flammable, and even explosive over a rather wide range of mixture with air. It must be remembered that they are components or derivatives of natural gas. In fact butane and propane are used as fuels and have high heat producing value.

This is what happens in the evaporator of a refrigerating system. If the liquid refrigerant is butane, propane, or some other oil-miscible refrigerant, and if it contains some oil (and it or any of the miscible refrigerants normally do), the refrigerant vaporizes in the evaporator and the oil is left.

2. REACTION WITH WATER

They do not react with water to form acids or other corrosive compounds as do ammonia, sulphur dioxide, or carbon dioxide. Thus if moisture gets into a system charged with one of these straight hydrocarbons (with nothing else but a highly refined oil) no destructive compounds are formed to attack the inner parts.

On the other hand, this moisture stays "free" and will readily freeze at the expansion valve, and thus announces its presence so that it can be removed by means of a dehydrator containing one of the solid desiccants such as silica gel, activated alumina, or Drierite.

3. ODOR

They have a detectable, rather sweet, but not very offensive odor, much in contrast to ammonia or sulphur dioxide.

4. TOXICITY

The straight hydrocarbons are quite toxic; that is, they are dangerous to breathe. Many of these gases are taken from natural gas and are very similar to natural gas and affect people or animals in about the same manner as natural gas.

Not only are they dangerous to breathe, but they are doubly dangerous because they do not have a very pronounced nor disagreeable odor to give warning as do ammonia, sulphur dioxide, etc. Enough of one of these gases can be breathed to make one sick or even cause death, without the odor being noticed.

5. INFLAMMABILITY

The straight hydrocarbons are

used as an expendable refrigerant in truck or other mobile applications; where it is first expanded to produce refrigeration and the gas then fed to the internal combustion engine, driving the vehicle.

The use of the straight hydrocarbons as the refrigerants in conventional refrigerating equipment, is highly problematical. Except for limited and special applications, their use seems to be made unnecessary by reason of the availability of other refrigerants that combine most of the desirable features of the straight hydrocarbons with a moderate or high degree of safety as to toxicity or flammability.

As far as the first three characteristics are concerned, 1. Miscibility with oil, 2. Reaction with water to form corrosive compounds, and 3. Odor, one of the straight hydrocarbons could have been used to take the place of sulphur dioxide.

There are many of these straight hydrocarbons and one or more, such as iso-butane, could be selected that would be entirely satisfactory from the standpoints of evaporating and condensing temperatures and pressures, latent heat, heat content, and other thermo-dynamic properties.

SAFETY THE DOMINANT FACTOR

But the safety angle ruled them out for the small or medium-sized unit for the home refrigerator or small commercial application.

In installations in which toxicity and inflammability are not of paramount importance, where cost of the refrigerant is a factor (they are quite low in original cost) or where the installations are under constant attendance by trained maintenance personnel familiar with these gases, as in refineries, etc., the straight hydrocarbons have definite advantages, and can be and are used quite successfully.

APPLICATIONS OF STRAIGHT HYDRO-CARBONS

In the past, iso-butane, which has pressure-temperature characteristics and some other properties similar to sulphur dioxide, was used to a considerable extent in household refrigerators, small water-coolers, and other small-commercial equipment.

Propane, ethane, and some of the higher pressure-lower temperature hydrocarbons are being used to a limited extent in ultra-low temperature, two or three-stage equipment.

Butane or propane can be and is

(To Be Continued)



NO PLACE FOR LEAKAGE HERE

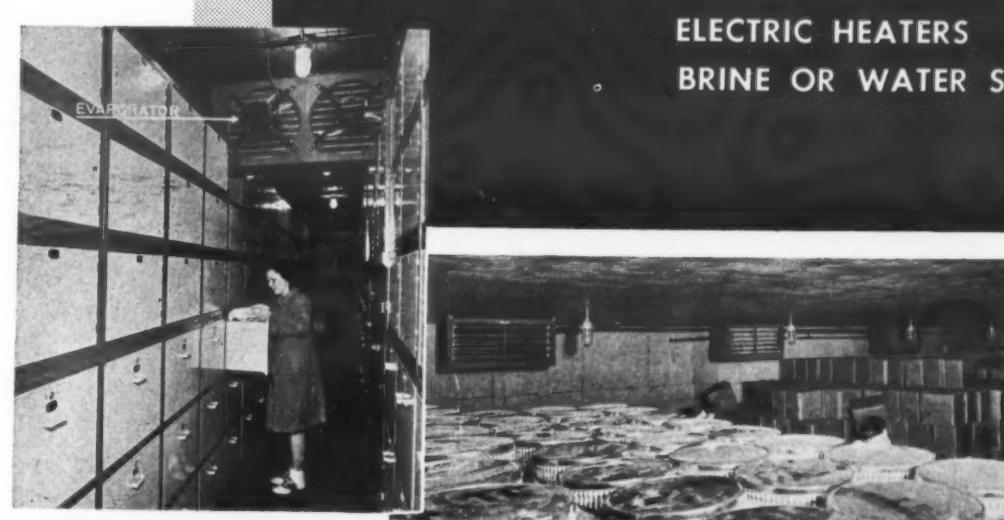
Leakage can be costly in pressure lubrication, too. That's why Tuthill small pumps are used more and more for this important service. Tuthill pioneered the leak-free pump and today's models are protected by the most effective mechanical seal Tuthill has ever built. Besides this you get quiet operation, minimum power consumption, proved durability and long life. Capacities up to 3 g.p.m. at pressures up to 400 p.s.i. Write for bulletin on Tuthill small industrial pumps.

TUTHILL PUMP COMPANY
939 East 95th Street, Chicago 19, Illinois

Only

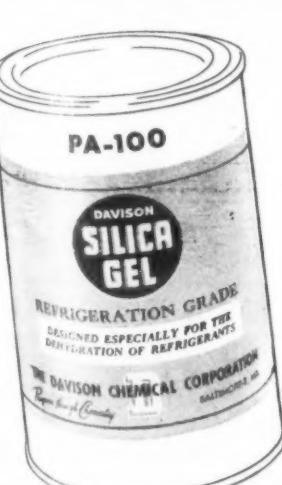
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Keeps Coils Frost-Free
Automatically
at Any Temperature
without.. LABOR
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ELECTRIC HEATERS
BRINE OR WATER SPRAYS



• Write for Bulletin 16

KRAMER TRENTON CO. Trenton, N.J.



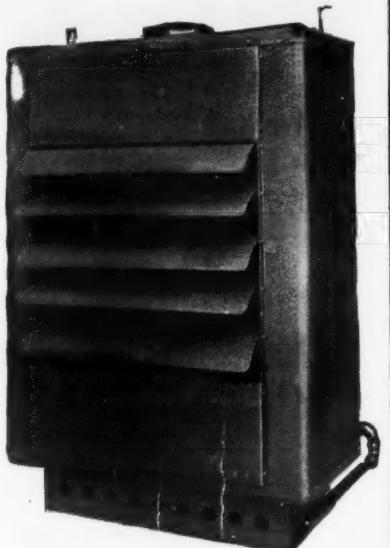
THE DAVISON CHEMICAL CORPORATION
Progress through Chemistry
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PIONEERS AND DEVELOPERS OF SILICA GEL
Canadian exclusive sales agents for DAVISON SILICA GEL:
CANADIAN INDUSTRIES LIMITED, General Chemicals Division

SUSPENDED GAS UNIT HEATERS

85—25—165 BTU capacity.
Delivery within 3 or 4 days.

This is a union manufactured Product.

Some exclusive territories are available.

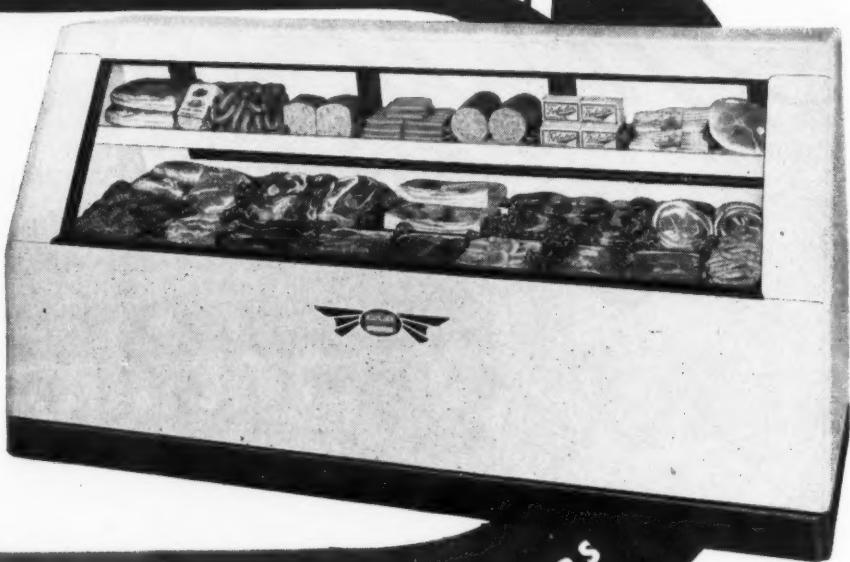


We also manufacture a combination heating and cooling unit, gas fired furnace and the NAT "Self-Contained" Air conditioning unit.

THE NAT CORPORATION
2710 McGee Trafficway Kansas City 8, Mo.

TRAFFIC CENTER

The meat department is the focal point in food stores. SHERER display cases naturally attract the flow of traffic by making possible outstanding displays of perfectly kept meat.



SHERER REFRIGERATED MERCHANTISERS
SHERER-GILLETT CO., MARSHALL, MICHIGAN



What's New

First Norge 'Water Boy' Cooler Reaches Detroit



DETROIT—The "water boy" portable water cooler developed by the Norge division of Borg-Warner Corp. now is being produced on a pilot line basis in the company's Chattanooga, Tenn., plant, it was announced

by Howard E. Blood, president of the division.

Full-scale output will begin in the near future, or as soon as new tooling and methods have been tested thoroughly and subsequent uninterrupted production assured, he explained.

The product is the first completely portable, automatic water cooling device ever to have been offered, Mr. Blood said. It is powered electrically, compact and may be moved easily from room to room and simply "plugged in" to the most convenient outlet for flexible utilization.

It will cool 50 cups of water an hour, and is approximately 22 in. wide, 14 in. high and 12½ in. deep. The cooler is styled to hold one, two, three, or five-gallon bottles, but the water reservoir, alone

will hold more than one gallon of water, thus eliminating the necessity for use of a bottle.

Presently, it is powered by a 1/2-hp. hermetically-sealed Rollator compressor unit, and it was partly for this reason that the Chattanooga plant was selected as permanent manufacturing site for the product.

New Wilson Reach-In Has Removable Front Section

SMYRNA, Del.—A new self-contained, reach-in beer and beverage cooler, called the "Stor-Safe," has been introduced by Wilson Refrigeration, Inc. here, John E. Wilson, Jr., president, recently announced.

The cooler, capable of holding 480 12-oz. bottles or 240 quart bottles, is said to incorporate all the features of construction ordinarily reserved for heavy-duty, low-temperature cabinets.

It features a removable front section that permits easy passage through narrow doors. A special asphalt-saturated felt gasket is used as a seal between the front section and the cabinet proper. A rubber T-strip moulding is also used in this joint.

The front section itself is designed to withstand maximum variations in temperature and humidity, according to Mr. Wilson. Door jambs are treated with special sealing compounds and finished with a molded rubber throat which encases the complete door opening.

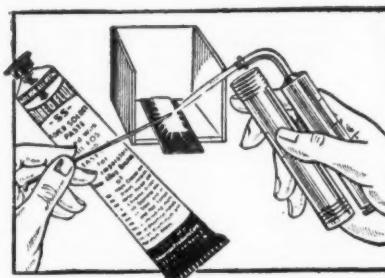
The doors themselves are of the all-steel, non-sagging, heavy duty type and are insulated with 5 in. of semi-rigid Fiberglas. They are further equipped with Wilson designed double-molded gaskets in 1 1/4 in. width to provide a positive door seal against the rubber throat, Mr. Wilson said.

The entire cabinet is protected with an extra 2 in. of semi-rigid Fiberglas insulation, he noted, or a total of 4 1/4 in. of insulation. The cabinet is made of steel and is mounted in a welded steel frame.

Interior of the cabinet provides 24.5 gross cu. ft. of storage space and 23 sq. ft. of shelf area. Six removable shelves are adjustable to 1/2 in. intervals so that storage space may be adapted to individual requirements, he declared.

An interior light turns on or off automatically as door is opened or closed.

The design of the cooler assembly assures proper circulation of clean, cold, moist air to maintain ideal temperature and humidity conditions throughout the storage area, Mr. Wilson stated. No manual defrosting is necessary.



Silver Soldering Kit Features Alcohol Torch

CHICAGO—A light-weight kit for silver soldering which is claimed to work comparable to acetylene torch brazing on metals up to 1/4 in. thickness has been introduced by American Products Corp. here.

The kit includes an improved type alcohol torch, fuel, heat-retaining chamber, accessories, instructions, and a supply of flux paste; 100 in. of silver solder wire in assorted sizes and 1 in. wide strip sheet.

Complete with the torch, the outfit sells for \$7.50, but the soldering kit alone is also sold separately for \$2.50.

Now in production . . .

GIANT ARMY STYLE

8 FOOT BEVERAGE COOLER WITH A 47 CASE CAPACITY!

★ Available now—the long awaited IDEAL giant beverage cooler! The cooler that made refrigeration history at most of Uncle Sam's largest army camps . . . under grueling conditions of use!

No ordinary cooler could provide the performance required to take care of thousands upon thousands of thirsty service men. But years of refrigeration "know how" and experience in the beverage cooler field enabled IDEAL to design and engineer an 8 foot standard size cabinet with a capacity of 47 cases of 12 oz. bottle beverages.

Great for the army, even greater now for civilian use! Just think what this means to your customers—under a standard bar IDEAL is able to cool and serve twice as much bottle beverages as ordinary coolers . . . at no added expense!

These beverage coolers will more than satisfy the most exacting buyers. Here is your opportunity to assure your leadership in your territory with the right cooler . . . a cooler proved by performance! For more information on available territories, write today!

IDEAL COOLER CORP. 2953 EASTON AVE., ST. LOUIS 6, MO.

What's New (Cont.)

G-E Portable Infrared Lamp Treats Sore Limbs



handy source of additional heat for such tasks as defrosting refrigerators, releasing clogged or frozen pipes, drying hair and fingernail polish, warming up a cold engine or thawing out a frozen radiator.

Designated the PL4A1, the lamp has a deflector which is self contained in the bulb and which provides the proper concentration of heat rays. The bulb itself is protected by a wire grille.

Mounted on a wall by means of a keyhole slot or fastened to a bed or chair with a spring clip, the lamp can be tilted to beam its rays in almost any desired direction.

The lamp is finished in baked-on brown lacquer and has a Textolite base. The cord, 6 ft. long, has a molded-on plug.

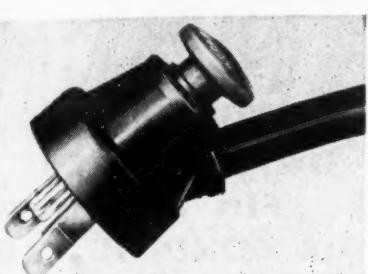
The lamp will retail for \$5.75, including bulb, Mr. Spooner said, and will be available in retail outlets in November.

ances in home or office where accidental removal from the outlet will cause inconvenience.

The Neolock is approved by the Underwriters' Laboratories and has no exposed metal parts. Strain relief is incorporated in the plug. It is made of Neoprene, and is available in any standard color. Two conductor plugs are now available for immediate delivery; Neolocks in two, three, and four conductors and from 10 to 60 amps. will soon be ready.

BRIDGEPORT, Conn. — A new portable infrared heat lamp for the treatment of muscular aches and strains has been announced by D. C. Spooner, manager of the General Electric Co.'s automatic blanket and sunlamp divisions.

Designed to be used wherever the therapeutic value of infrared heat is recommended by a physician, the new lamp also serves many practical purposes in the home. It provides a

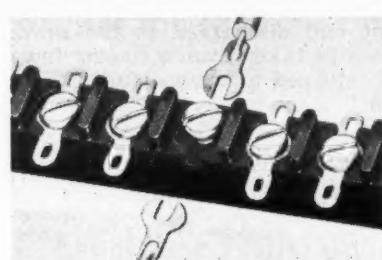


Pressure of Finger-Tip Locks Plug In Receptacle

LOS ANGELES — A new type of locking plug that fits any standard outlet and is simple to use has been announced by Ira R. (Bromo) Seltzer, president of Neoline, Inc., here.

Marketed as the Neolock "105" Locking Plug, this new, patented plug requires no special receptacle or attachment. Slight finger-tip pressure on a plunger attached to a sliding wedge forces the prongs of the plug tightly against the contacts of the receptacle, locking the plug securely in a vise-like grip and forming a positive contact even in a badly worn receptacle, it is claimed. It is unlocked merely by pulling out the plunger. Only one action is needed for inserting and locking or unlocking and removing the plug.

Mr. Seltzer, who also heads Henger Seltzer Co., West Coast distributor of electrical and metal products, claims that the plug has been found particularly valuable when used with electrical equipment and tools in shops and factories, and with refrigerators, electric irons, vacuum cleaners, fans, home freezers, radios, electric clocks and other electrical appli-



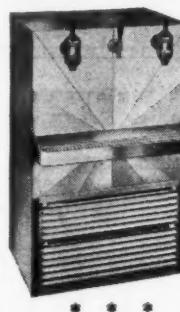
Terminal Block Designed To Keep Lugs In Place

CHICAGO — Development of a terminal block featuring a terminal "lock-in" arrangement said to eliminate the danger of spade lugs pulling out is announced by Curtis Development & Mfg. Co. here.

"This new block is provided with solder-type spade lugs which are recessed into the body of the device," the company explains. "When the binder screws are tightened, each lug is held rigidly in place against a shoulder of the tough plastic material forming the terminal block."

The block can be assembled in any desired number of terminals from one to 18. According to specifications, a

10-terminal block, for example, is 5% in. long, with an over-all height of $\frac{1}{2}$ in. and a width, including the lugs of $1\frac{1}{16}$ in.



Self-Contained Service Bar Occupies 2-3 sq. ft.

CLEVELAND — A new self-contained service bar that occupies only 2 $\frac{1}{2}$ to 3 $\frac{1}{4}$ sq. ft. of floor space has been announced by the RAM-co Co. here.

The bar includes a Hudson constant pressure carbonator, two stainless steel syrup tanks, compressor, a sweet water bath, large cooling coils, and a drinking water faucet, the company disclosed.

Feature attraction is the Hudson three-way pressure drink dispenser that will dispense two different drink flavors and plain soda from one faucet.

Syrups are contained in two stainless steel tanks which are placed at any convenient point. Syrup is driven to the faucet by pressure.

Constructed of stainless steel in a sunburst design, the RAM-co service bar need only be attached to water line and drain for operation.

DESIGNED FOR DURABILITY

Order Now these popular items from our complete line of Test Proven Equipment. Models to fit any need. Built to give dependable economical performance—heavily insulated and sturdily constructed throughout:

The LA CROSSE COOLER CO.
LA CROSSE WISCONSIN

Both necessary to REFRIGERATION MAINTENANCE

THAWZONE...
THE MOVING DEHYDRANT... CIRCULATES AND SEARCHES OUT MOISTURE, DESTROYING IT CHEMICALLY. FOR NEW AND RECONDITIONED UNITS, AS WELL AS OLD.

TRACE...
A HIGHLY EFFECTIVE REFRIGERANT LEAK DETECTOR. ITS STABLE VIVID RED COLOR REVEALS LEAKS INSTANTLY IN OLD OR NEW SYSTEMS.

HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.

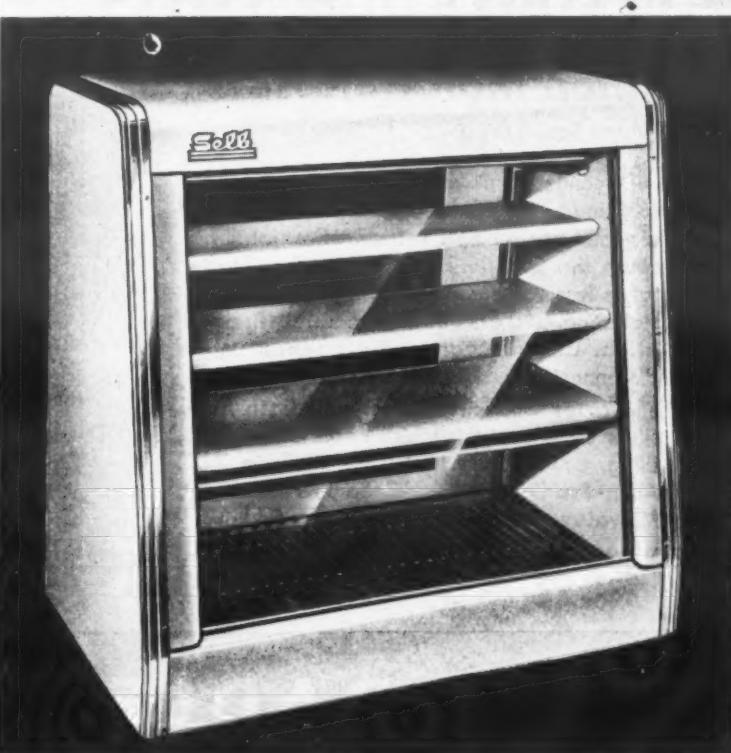
THAWZONE
PATENTED
The PIONEER FLUID DEHYDRANT

TRACE
REFRIGERANT LEAK DETECTOR



It's your move to see that you get those extra sales with the Selb S-4 refrigerated display case.

Reap the profits... for its headed for bakeries, groceries, confectioneries, drug stores and liquor stores everywhere!



SELB
takes only **4** feet

SELB MANUFACTURING CO.

ARCADE BLDG., ST. LOUIS 1, MO.

perfected Dry Beverage Coolers

IMPROVED — SANITARY

All Steel Construction!
Heavy Baked-On Crackle Finish!

We also Manufacture:

- REACH-IN REFRIGERATORS
- FROSTED FOOD DISPLAY CASES
- FREEZERS
- ICE CREAM CABINETS

ALL EQUIPMENT GUARANTEED!
IMMEDIATE DELIVERY!



*The**One of a series from***KEY to AIR CONDITIONING**

by James J. LaSalvia

Refrigeration (Cont.)**PRINCIPLE OF OPERATION**

By referring to Fig. 4 we can follow through the principle of operation of a Ross Decalibrator, which is one of the types of steam ejector systems. For convenience this diagram shows temperatures and pressures for one selected condition and operation. It should be understood that the evaporator and primary condenser temperatures and pressures

will vary according to the operating conditions.

Steam entering through the nozzle in the ejector head is flowing at a very great rate of speed, and is expanded in the Venturi-shaped diffuser. The kinetic energy of the steam is in part utilized in imparting velocity to the water vapor from the evaporator to the primary condenser.

The vapor is compressed over a

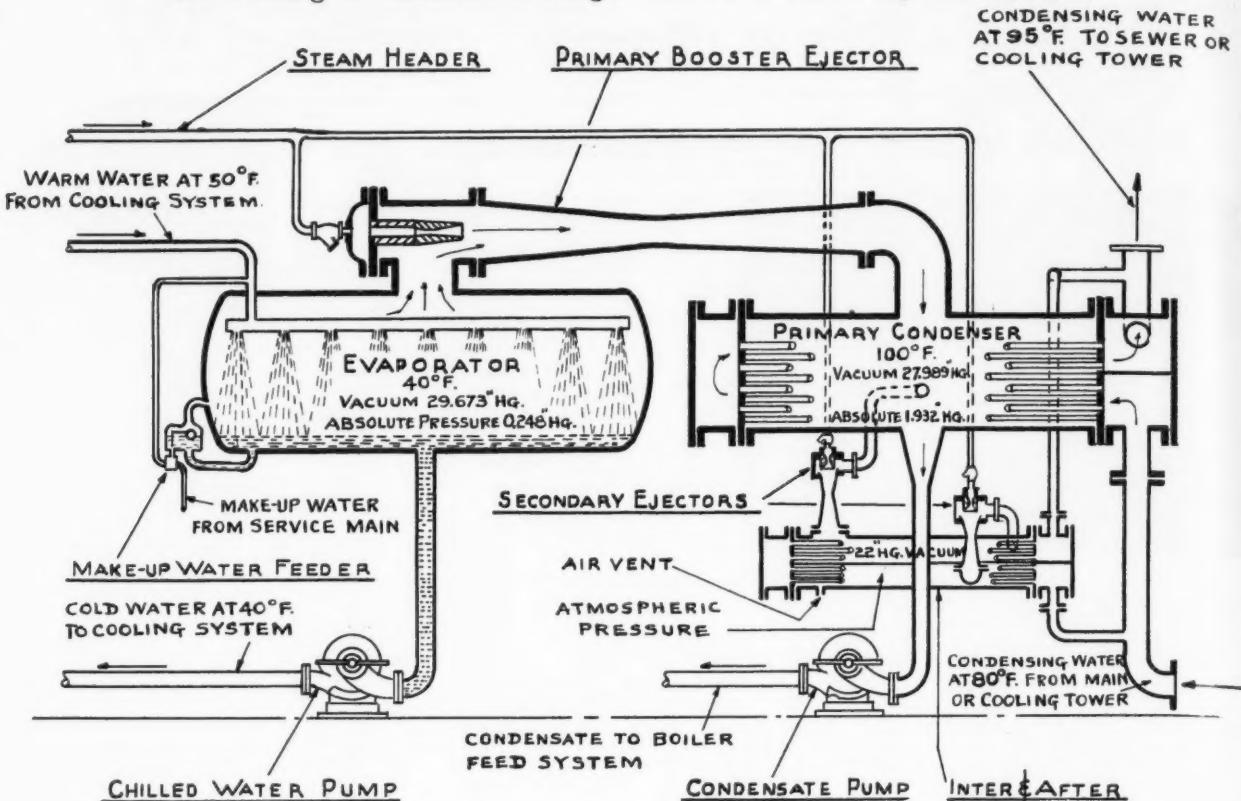
How Cooling Is Obtained Through Use of a Steam Ejector System

Fig. 4—Principles of steam ejector refrigeration are shown in this diagram of a Ross Decalibrator. (Courtesy American Blower Corp.)

compression range from the evaporator pressure to the condenser pressure, thereby raising the temperature of the vapor, so that it can be condensed readily by available condensing temperatures.

The primary condenser is of the surface type with condensing water passing through tubes over which the mixture of operating steam and water vapor flows. The vapor temperatures in the condenser is usually held at about 5° above the leaving condensing water temperature. This fixes the terminal pressure conditions to which the steam and vapor mixture is compressed.

The initial pressure conditions in the evaporator are determined by the chilled water temperature desired. Variations in the temperature in the condenser to condenser water leaving and the temperature of chilled water desired, affects the compression range as well as the amount of operating steam.

According to Fig. 4, the pressure in the evaporator is 29.673 in. Hg. and in the condenser is 27.989 in. Hg., which means the compression range in this case to be 1.684 in. Hg.

The secondary ejectors and condensers are used to remove the accumulations of air and other non-condensable gases from the primary condenser, which have been carried over from the evaporator, and to provide sufficient suction to vent them to the atmosphere.

The chilled water from the evaporator is carried to the cooling system or air conditioner and returned to the evaporator at a higher temperature, in this case 50° F., and is sprayed. The evaporator, having a large spray surface, breaks the water down to a very fine mist, thereby causing a very rapid flashing.

Unevaporated water will fall to

the bottom of the evaporator, being cooled to 40° F., while the flash vapor will be carried away by the steam in the ejector to the condenser. In this case, it will require 10 B.t.u. to cool 1 lb. of water from 50° to 40° F.

In the primary condenser, the mixture of steam and water is condensed by the condensing water, and the condensate is carried away by a condensate pump, usually to the boiler feed system as make-up water for the boiler. The condensing water is taken from the service main of the plant and discharged to the sewer, or can be taken from a cooling tower and returned to the cooling tower by a cooling tower circulating pump.

(To Be Continued)

Cafeteria In Basement To Be Air Conditioned

KANSAS CITY, Mo.—Conditioned air will do its part in attracting customers to a new below-street-level cafeteria in the Plaza residential shopping district here.

More than 15,000 sq. ft. of space beneath a grocery store and parking lot will be turned into an air conditioned cafeteria, seating 500 persons. The Interstate Co. of Chicago, operator of some 200 eating places in 35 states, will run the cafeteria.

Four walk-in refrigerators will provide ample storage space in the kitchen for perishables.

The J. C. Nichols Co., builder of most of the business structures in the area, designed the underground eating place which will serve the shopping center. William L. Cassell, Nichols' mechanical engineer, laid out the cafeteria's air conditioning, cooling, and heating system.

Opening of a new Sears, Roebuck & Co. store, which will be completely the decision of the Interstate Co. to add the subterranean cafeteria to its chain. The Chicago firm runs the tea rooms and restaurants in 36 Sears, Roebuck stores throughout the country.

Electrimatic

2100 INDIANA AVE CHICAGO 16 ILLINOIS

SAVE ROOM—SAVE INSTALLATION COSTS

by using A-B Combination Motor Starters



Disconnect unit and magnetic starter are contained in ONE compact cabinet. Ideal for air-conditioning and refrigeration jobs, because the Bulletin 712 Combination Starter takes less room, saves wiring, speeds up installation, and affords added safety in operation. Cabinet cannot be opened unless disconnect lever is in OFF position.

Starter and disconnect unit both have silver alloy contacts which need no cleaning, filing, or dressing. Send for Bulletin 712. Allen-Bradley Co., 1313 South First Street, Milwaukee 4, Wisconsin.



ALLEN-BRADLEY
SOLENOID MOTOR CONTROL

ALLEN-BRADLEY MOTOR CONTROLS
for Air-Conditioning and Refrigeration.
Manual & automatic across-the-line starters.
Compression-type velvet-smooth starters.
Pressure and temperature switches & controls.
Relays and contactors from 1 to 8 poles.
Push buttons and selector switches.

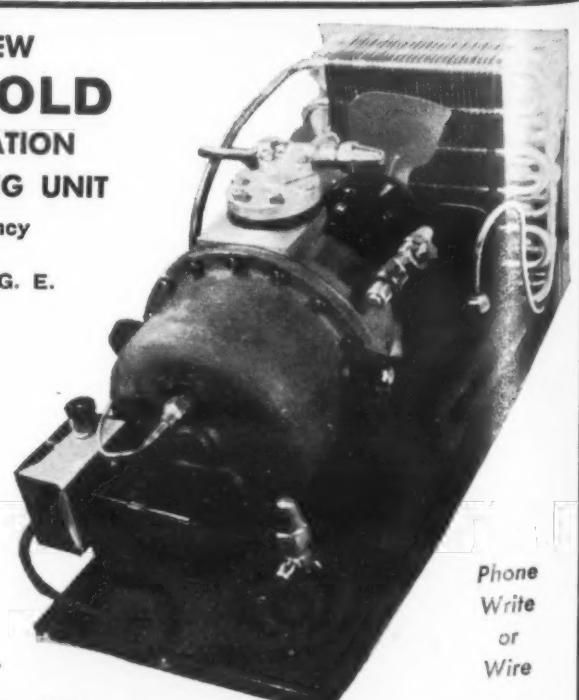
THE NEW KEL-KOLD REFRIGERATION CONDENSING UNIT

Direct Drive Efficiency
No Seal Trouble
EQUIPPED WITH G. E.
Hermetic Sealed Motors

- Deliveries Immediate

- DEALERS DISTRIBUTORS WANTED
PROTECTED TERRITORY

- 1/4—1/2 HP. Sizes High and Low Temp.



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Write
or
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121 N

In East, Midwest

STERLING F. SMITH

Representing Recold --

(Concluded from Page 1, Column 5) of Recold products in his territory from there, Mr. Jarvis said.

Distributors established by Mr. Smith will introduce to the east and midwest the Recold line of evaporative condensers and ammonia coils, including a recently designed new type evaporative condenser, he asserted.

This new product entirely eliminates corrosion in the fan section by applying air to the condenser under pressure rather than by suction, he explained.

Capacities ranging from 5 to 30 tons have been developed so far, but the company anticipates future developments of the product to include capacities up to 100 tons for use with both "Freon" and ammonia.

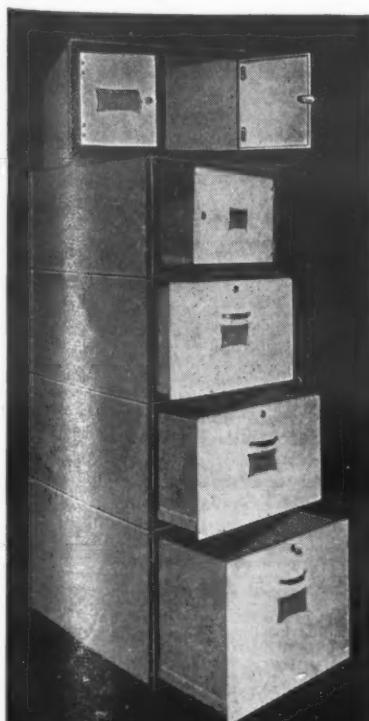
Chooses Rifle, Chicken Fryer; Guess Where He's From

SOUTH BEND, Ind.—An Arkansas salesman was first to win a prize in a national washing machine sales contest sponsored by Bendix Home Appliances. His choice—a .22 rifle and a chicken fryer, according to Sales Promotion Manager W. C. Jones.

Since 1935

IMMEDIATE DELIVERY

We've got the steel—We've again stepped up our capacity—SO YOU set the pace and we'll meet it. NOW—One Locker—100 Lockers or a carload—we are ready to deliver any time on time, according to your needs. Order now your requirements of the lockers that satisfy—the

**MASTER
FOOD
CONSERVATORS****Wire,
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Get the locker that satisfies. Don't be satisfied with anything but the best—the MASTER.

Endorsed by and sold through distributors of refrigeration and insulation.

Master Manufacturing Corp.
121 Main Street
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Member of Frozen Food Locker Institute, organized for your protection.

Over 1,000,000 Master Food Conservators in Use

Locker Plant Financing--

(Concluded from Page 1, Column 2) ance payable in four years; other terms as above.

3. Down payment of 25%; balance payable in three years; other terms as above.

The RFC plan calls for the RFC to guarantee loans up to 75% when made by any bank affiliated with the government agency. Interest rate on the 75% guaranteed by RFC may not exceed 4% simple interest, while interest on the 25% handled directly by the bank may not exceed 6%.

All loans under the RFC plan must be repaid on or before Jan. 31, 1955, according to the Congressional action authorizing this agency. Annual payments must represent at least 10% of the unpaid balance plus interest, and may be made on a monthly or quarterly basis.

If a local bank should be unwilling to make a locker plant loan on this basis, it may be possible to finance it directly through the RFC, providing the bank writes a letter to that effect to the nearest RFC office, assuming, of course, that the RFC and the borrower can arrive at satisfactory terms.

"It goes without saying that any purchaser's credit record must be carefully scrutinized and the purchaser or contractor must furnish to RFC full information regarding potential income and expenses of the plant," points out Mr. Farquhar.

"RFC advises that during recent weeks many bankers have come to the realization that they may obtain a better interest rate on a loan of this nature than through the purchase of government securities," adds Mr. Farquhar.

"RFC makes a charge of only 3/4 of 1% for the guarantee of paper as outlined above, while the banker collects 3 1/4% on 75% of the loan and up to 6% on the remaining 25% of the loan."

**Lingle Refrigeration Leases
Part of Kansas City WAA Plant**

KANSAS CITY, Mo.—The Lingle Refrigeration Co., manufacturer of commercial refrigerator equipment, has leased more than 5,000 sq. ft. in the Pratt & Whitney plant, government war building now operated by WAA, for office space and manufacturing facilities.

★ **NUMBER FOUR** ★**Helping the World**

AIR CONDITIONING comprises one industry which has an excellent chance of getting some of its tax dollars back from Lend-Lease operations and from postwar loans to foreign nations.

Explanation of this odd proposition is that Lend-Lease, along with our Army and Navy, have advanced the promotion of foreign markets for air conditioning anywhere from 10 to 20 years by virtue of the "sample" installations they have made in lands which need air conditioning most, yet which hitherto have enjoyed its benefits least.

The United States of America is the only nation in the world which has made any large-scale application of air conditioning to the art of better living and better working. We have in our country the only air conditioning industry of real size on the globe. Yet, other nations need air conditioning even more than we do.

You have to see something, and realize what it can do for you, before you want it. And right here is where our Army and Navy have entered the air conditioning picture. In darkest Africa, in remotest South America, in Iraq and Iran, in the Near East, the Middle East, and the Far East, they have made extensive installations of air conditioning equipment for the use of their own men.

The natives of foreign lands are now being exposed to air conditioning, and are learning how much they like it and how much it can do for them. It would have taken years—and tremendous promotional investments on the part of American manufacturers—to match the educational job which these "sample" installations abroad have achieved.

Reports filtering back from many cities in the Torrid Zone reveal that natives of tropical climes are "nuts" about air conditioning. Inquiries to American manufacturers are multiplying as these seedlings continue to grow and bear fruit.

In tropical countries—where air conditioning is needed most and is found least—the wave of desire for our American equipment has become so tremendous that export men in this industry can hardly believe the evidence they see.

For years they have been battling for a foothold, for recognition, for some clue to the penetration of that baffling inertia to new ideas which has made their going so tough. And now they see the market which was always there unfolding before their eyes like Moses and the Promised Land. Big difference: they expect to enter the Promised Land, whereas Moses could only look at it.

The Nevinger Mfg. Co. takes pride in the fact that it is one of the leading suppliers of this American "ambassador of goodwill" to the United Nations.

{ This is one of a series of 26 advertisements dedicated to the progress of the entire air conditioning industry by }

NEVINGER MFG. CO., INC.
GREENVILLE, ILLINOIS

PATENTS

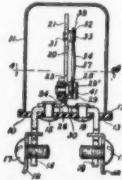
Weeks of Aug. 19 & 26

2,425,714. **QUICK FREEZING OF FOODS.** John M. Baer, Chicago, Ill., assignor to The Guardite Corp.



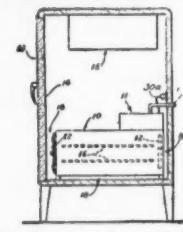
1. In a method of freezing a moisture-containing food product which comprises blanching the product by removing air therefrom and substituting an atmosphere of steam at a temperature in excess of 165° F., and evacuating the food product to reduce its temperature to a point just above the freezing point of water in the product, the step which comprises passing the product in outspread form and out of contact with a refrigerating surface, through a chamber having black walls cooled to a temperature of approximately -200° F. wherein the heat of the product is radiated in substantial quantities to the walls and the product is quick-frozen in the chamber, the entire method being conducted in the substantial absence of air and the freezing chamber being continuously evacuated at a pressure below the vapor pressure of water at the temperature of the cooling walls.

2,425,717. **THERMOSTATIC SWITCH ASSEMBLY.** Frank Robert Bean, Rochester, N. Y., assignor to F. A. Smith Mfg. Co.



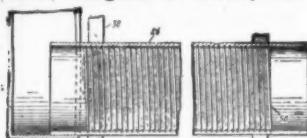
1. A thermostatic switch assembly comprising a support member, a contact, and a snap acting switch member composed of bimetallic sheet material having converging sides, provided with longitudinal slot having substantially parallel sides, and having a current carrying portion progressively increasing in cross-section toward the wider end of said switch member.

2,425,816. **APPARATUS FOR COOLING UNDER ULTRAVIOLET RADIATION AND VACUUM CONDITIONS.** William L. Maxson, West Orange, N. J., assignor to The W. L. Maxson Corp., New York, N. Y.



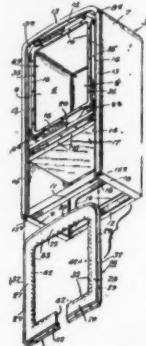
1. A storage chamber adapted to be refrigerated including a removable airtight box capable of withstanding external air pressure, a door for sealing said box, means mounted on the box for evacuating said box to a predetermined low pressure, means for producing ultra violet light within said box, and humidifying means within said box.

2,426,044. **HEAT TRANSFER DEVICE WITH LIQUID LIFTING CAPILLARY SURFACE.** William L. O'Brien, Evansville, Ind., assignor to Servel, Inc.

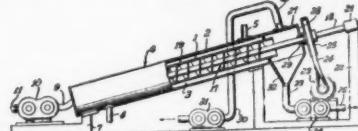


1. A heat transfer device having a wall through which heat is transferred between a fluid on one side and a liquid contacting a portion of the other side, the side of the wall contacted by the liquid having a capillary liquid-lifting surface forming an integral part of the wall structure and extending upwardly from the level of the liquid to carry the liquid upwardly on to the wall surface above the liquid level by capillary action to wet the wall surface with the liquid.

2,426,055. **REFRIGERATOR CABINET CONSTRUCTION.** Theodore W. Gundell, Abington, Pa., assignor, by mesne assignments, to Philco Corp.



1. In an apparatus for rapidly freezing a liquid heterogeneous mixture, the combination of: an elongated freezing chamber; means for refrigerating said freezing



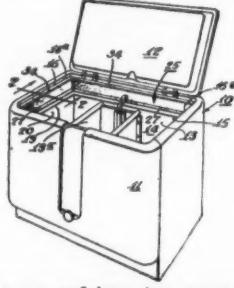
chamber to a temperature substantially below the freezing points of the constituents of said mixture; means for introducing liquids to be frozen into one end of said chamber; means for moving said liquids through said chamber at a rate adjusted to discharge said liquids from the other end of said chamber at a temperature below the freezing point of a part of the constituents of said mixture and above the freezing point of the remainder of said constituents; and means for exhausting the interior of said chamber to maintain a pressure therein substantially less than atmospheric.

2,426,515. **LIQUID CONGEALING APPARATUS.** Edward H. Lutz, Norwood, Pa., assignors, by mesne assignments, to General Motors Corp.



1. In liquid congealing apparatus, the combination of a pan member, a detachable grid member embodying a longitudinal wall formed of grid sections, a plurality of substantially rigid transverse walls each individually connected to only one of said grid sections, said longitudinal and transverse walls providing division walls for dividing the pan into a plurality of cells, and pivot connections connecting said grid sections adjacent the bottom of the pan member for affording relative angular movement of the division walls after the grid member is raised from the pan member, said grid sections of the longitudinal wall abutting when in their normal position in said pan member for preventing relative angular movement in a direction upward of the ends of said longitudinal wall.

2,426,525. **REFRIGERATOR CABINET.** Theodore W. Gundell, Abington, Pa., assignor to Philco Corp.



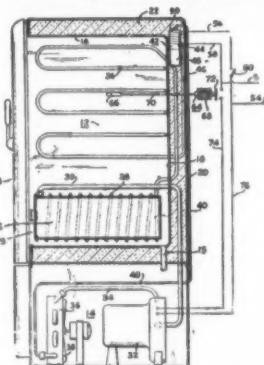
A top-access refrigerator comprising an outer shell having in the top thereof an access opening defined by an internally depending peripheral wall portion terminating in an inwardly extending horizontal flange portion extending completely around said access opening, a liner internally of said shell having peripheral rim portion spaced below said horizontal flange portion of the shell, and a unitary breaker-strip coextensive with said flange portion, said breaker-strip suspending said liner from said shell and constituting the sole support for said liner, said breaker-strip having a lower peripheral edge portion secured to said liner rim portion and an upper outwardly extending horizontal peripheral flange portion arranged to overlie and be supported on the horizontal flange portion of said outer shell, said strip comprising an inner relatively rigid framing member and an outer covering enclosing said framing member, said framing member and said covering being of low heat conducting capacity and said strip serving to substantially thermally isolate the liner from said shell.

2,426,578. **REFRIGERATION APPARATUS INCLUDING DEFROSTING MEANS.** Raymond E. Tobey, Springfield, Mass., assignor to Westinghouse Electric Corp.



A heat exchange element including a plurality of integrally connected fins, each fin being connected at the top and bottom of one edge with the fin at one side thereof and at the top and bottom of another edge with the fin at the other side thereof, said fins having wings projecting between and beyond the points of interconnection and lying in the same planes as the fins.

2,426,368. **APPARATUS FOR FREEZING LIQUIDS.** Walter W. Mayne and Kenneth A. Murphy, Pasadena, Calif., assignors, by mesne assignments, to Pre-Pak Freezer Corp.



1. A refrigerator comprising first and second evaporators connected in series, first and second storage chambers in heat-transfer relation with said first and second evaporators respectively, a compressor for withdrawing refrigerant vapor, the suction side of said compressor being connected to said second evaporator at a point remote from the connection of said second evaporator to said first evaporator, a condenser receiving compressed refrigerant vapor from said compressor, a tube connected to conduct refrigerant liquid from said condenser to said first evaporator, a thermostat control for said compressor to maintain said first chamber at an above-freezing temperature, and means for providing the effect of selectively varying the refrigerant charge of the refrigerator to the extent of supplying liquid refrigerant either sufficient for both of said evaporators or sufficient for only said first evaporator, said second evaporator and second chamber being in such heat-transfer relation and the suction side of said compressor being such that said second chamber is maintained at below-freezing temperatures when said refrigerant charge is sufficient for both evaporators.

(To Be Continued)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$2.50 per insertion. Limit 50 words.

RATES for all other classifications \$5.00 per insertion. Limit 50 words.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

POSITIONS WANTED

REFRIGERATION ENGINEER. 20 years experience all types refrigeration and air conditioning. Field service engineer for compressor manufacturer, parts jobber, or service manager and refrigeration buyer for grocery chain. Prefer Middle-West. Highest references. BOX 2531 Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

FACTORY PRODUCTION man assistant to Superintendent with experience in production of commercial refrigerators, coolers, cases, etc., with knowledge of wood and metal construction with firm over 60 years in business. Give full qualifications, references and salary. C. L. PERCIVAL REFRIGERATION COMPANY, Boone, Iowa.

REFRIGERATION AND sales engineer for distributor of the York Corporation. Must have actual experience in selling and engineering refrigeration and air conditioning. Write giving full qualifications and experience to PIEDMONT REFRIGERATION COMPANY, 1509 West Main Street, Charlottesville, Virginia.

SERVICE MAN—for all types of domestic refrigerators and major appliances. Must have at least five years experience, no trainees. Desire married man between 30-40 years of age with own car. Good salary based on experience. STOCK-FRIGIDAIRE COMPANY, 201 South George Street, York, Pennsylvania.

SALES ENGINEER: Young man desired for estimating and selling ammonia and "Freon" machinery installation, should have technical training and be thoroughly competent, Virginia territory. Write giving full qualifications and experience to BOX 2520 Air Conditioning & Refrigeration News.

EXPERIENCED CABINET designer for board work on low and moderate refrigeration cabinets. Excellent opportunity with a well-known Midwest manufacturer of refrigeration products. BOX 2522 Air Conditioning & Refrigeration News.

BRANCH MANAGER commercial refrigerator fixtures. (no air conditioning). Must know butcher tool line and supplies. Only man proven record need apply. Old firm centrally located. Must have sales ability, train salesmen, assume full responsibilities. Give qualifications and reference. One of best paying positions in industry. BOX 2533 Air Conditioning & Refrigeration News.

FACTORY REPRESENTATIVE to headquarter Detroit and travel entire country promoting commercial refrigeration sales through dealer contacts and regional meetings. Nationally advertised line includes domestic home freezers. Excellent earning possibilities. Experience in specialty selling and/or refrigeration essential. Reply with brief particulars to BOX 2534 Air Conditioning & Refrigeration News.

WANTED SALESMEN who are now calling on refrigeration dealers to augment their present incomes by introducing a new line of sales. Designed freezer cabinets which are planned to move merchandise, liberal commissions, easy to sell. For full particulars write BOX 2535 Air Conditioning & Refrigeration News.

DESIGN AND development engineer wanted by prominent manufacturer of valves and flow control devices. Supervisory position open for man with administrative ability. Engineering education necessary, with experience in refrigeration field highly desirable. Located in Midwest. Write full details, including experience, education, salary expected. BOX 2539 Air Conditioning & Refrigeration News.

WELL QUALIFIED sales or application engineer for prominent manufacturer automatic control equipment. Experience in sales or application engineering of automatic controls desired. Excellent opportunity for capable man wishing to become associated with a progressive concern. Give age and full details of education and experience. Confidential. BOX 2542 Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

MOTORS AND condensing units—available at once— $\frac{1}{4}$ — $\frac{1}{2}$ — $\frac{1}{4}$ — $\frac{1}{2}$ Universal condensing units with or without motors. Special—six hole ice-cream cabinets with $\frac{1}{4}$ hp. Copeland units less motors \$225. Also beverage coolers, beer equipment, stainless steel reach-in freezers. ALBROD CORP., 319 West 48th St., New York City 19, CI 6-9100.

LIQUIDATING \$70,000 stock of 22-32-40-60-80 cu. ft. reachins, remote and self-contained models; all sizes of condensing units, electric water coolers, freezer plates, electric meat slicers, meat choppers. At less than factory prices. A real opportunity. Write AMERICAN COMMERCIAL EQUIPMENT CO., 4150 Holly Knoll, Los Angeles 27, California. Normandy 0450.

SELLING OUT: used (as is) and rebuilt Frigidaire and Kelvinator condensing units with new a. ph. capacitor motors. Write for list. EDISON COOLING CORP., 310 E. 149th Street, Bronx 51, N. Y.

EXCESS INVENTORY of brand new compressor and condensing units priced far below cost. All in original crates. "Freon" type 208/3/60 complete. Also few motors, starters, self-contained air units and freezer doors. E. M. FAIRBANKS, 145-03 Seventh Avenue, White Plains, L. I. N. Y.

FOR IMMEDIATE disposal our inventory new Universal compressors complete with motors, 3, 5, 10 HP water cooled—original crates. Water defrost coils Drayer-Hanson 1900 WD-2600 WD also Recold 1344LT. Wholesale cost. LOCKER ENGINEERING COMPANY, 521 No. La Cienega Blvd., Los Angeles 36, California.

100 MOTORS, repaired and guaranteed, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{2}$ torque refrigeration Delco, Leland, Wagner, Sunlight, etc. Closeout sale, each \$12.00. Export Dept. S. J. O'BRIEN SALES CORPORATION, 560 West 34th Street, New York 1, N. Y. Telephone WI 7-2100.

McQUAY AIR conditioning blower units, each with 4-row cooling and one-row heating coils. 3—model ST25 1 HP blower motor, \$720 each; 2—model ST37 1/2 HP motor, \$831 each; 5—model ST75 3 HP motor, \$1,215 each; 4—model ST106 3 HP motor, \$1,500 each. All motors 3 phase, 60 cycle. Starters included. Priced below cost. FOB Chicago. REFRIGERATION MAINTENANCE CORP., 321 E. Grand, Chicago, Ill.

SACRIFICING BRAND new Copeland and other top brands. Condensing units in original crates. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{2}$ HP air-cooled. $\frac{1}{2}$ and 3 HP water-cooled. All priced for immediate clearance. Write or wire now. ROCHELLE REFRIGERATION COMPANY, 31 East 4th Street, New York 3, N. Y.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three \$5.25 (Part No. 1020). Installation tool 20¢. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

IMMEDIATE DELIVERY— $\frac{1}{4}$ HP refrigerator motors \$25. $\frac{1}{2}$ HP refrigerator motors \$30. $\frac{1}{2}$ HP refrigerator motors \$40. Full line ice cream cabinets 2-12 units; complete with condensing units; $\frac{1}{4}$ HP to $\frac{1}{2}$ HP condensing units with motors; GEMCO 5-ton air conditioning unit \$1,000. Reach-ins, beverage coolers, display cases. Reducing inventory. BOX 2524 Air Conditioning & Refrigeration News.

REDUCING INVENTORY of Frigidair Vegetable Cases. All new in original crating. Less than distributor cost. Write for price list. BOX 2540 Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

FOR SALE: Established air conditioning and engineering business. Have National franchise for this and another state for refrigeration. Stock about \$60,000. More than \$300,000 yearly profit over \$50,000—1946. Building available reasonable rental or purchase. Retiring. Would sell invoice price. Would take approximately \$40,000. LESLIE CONNER, Hightower Building, Oklahoma City, Oklahoma.

WELL ESTABLISHED commercial refrigeration store, fixture business, sales and service. Located fast growing Los Angeles. Average about \$300,000 yearly. Building 6,400 sq. ft., 80 ft. frontage, parking rear. Service shop, tools and trucks. Sell complete or business only. \$25,000 down and financed balance. Make offer. BOX 2538 Air Conditioning & Refrigeration News.

OPPORTUNITY AT Niagara Falls. Appliance repair business established 1940 for sale. Owner retiring to farm. Consistently city's heaviest appliance advertiser, firm is deeply rooted in rich industrial area. Cash required \$1,500. Central property, living quarters. Mortgage \$40 monthly. Available January first. BOX 2541 Air Conditioning & Refrigeration News.

FOR SALE: Small plant manufacturing commercial refrigeration equipment. Located in East Tennessee. This company has been in successful operation for more than thirty years. Ideal set-up for the distribution as well as the manufacturing of equipment. For further information write BOX 2543 Air Conditioning & Refrigeration News.

WELL QUALIFIED sales or application engineer for prominent manufacturer automatic control equipment. Experience in sales or application engineering of automatic controls desired. Excellent opportunity for capable man wishing to become associated with a progressive concern. Give age and full details of education and experience. Confidential. BOX 2542 Air Conditioning & Refrigeration News.

Experienced factory sales representatives to establish dealers and distributors for one of the leading Eastern commercial refrigeration plants, manufacturing frozen food display cabinets, dairy cases, ice cream cabinets, etc. Extensive national advertising program, leads and liberal commissions. Protected exclusive territories open. Men with experience in the refrigeration line and accustomed to earnings of \$7500 upwards reply stating experience. Correspondence confidential. Our men know of this ad. Box 2521, Air Conditioning & Refrigeration News

MANUFACTURERS! OF REFRIGERATED MILK DISPLAY CASES WE HAVE THE MARKET DO YOU HAVE THE CASE?

Price must be competitive. Send us full particulars in first letter. Box No. 2537, Air Conditioning & Refrigeration News

RSES Group Sees Glass Evaporators Work

First of a series of nation-wide educational and entertainment meetings sponsored by Jack & Heintz and wholesalers was held for the RSES in Cleveland. John S. MacKinlay (center) and Jack Clarke (adjusting controls at left) answer questions about the glass evaporators.

Jahco Condensing Unit Featured In Program of Educational Meetings

CLEVELAND—Jack & Heintz Precision Industries, Inc., carrying the story behind its refrigeration condensing units into the field, is conducting educational entertainment programs at wholesaler-dealer meetings in eight Midwestern and Southern states.

The program, scheduled in cooperation with six authorized Jack & Heintz wholesalers and two associations, opens with the showing of a technicolor-sound motion picture emphasizing the production methods and labor relations policies employed by the company to achieve mass precision. The movie is followed immediately by a fast-moving "shop talk" in which refrigeration serviceman John S. MacKinlay explains outstanding features of the condensing unit, utilizing a cutaway unit and sub-assemblies for demonstration of Jack & Heintz design highlights.

The program is concluded with an animated display of the Jack & Heintz condensing unit's performance when connected to full-flooded, semi-flooded, and dry-expansion evaporators (made of glass) and with three different types of controls.

The itinerary, which opened with a Refrigeration Service Engineers Society meeting at Cleveland's Allerton hotel Oct. 14, called for appearances in the following cities:

Indianapolis, Ind. (Oct. 16)—sponsor: F. H. Langenskamp Co.; Peoria, Ill. (Oct. 17)—sponsor: Marquette Equipment Co.; Galveston, Tex. (Oct. 23)—sponsor: Southern Association of Wholesalers; New Orleans, La.—(Oct. 27)—sponsor: Enochs Sales Co.; Atlanta, Ga. (Oct. 28)—sponsor: Bowen Refrigeration Supplies, Inc.; Knoxville, Tenn. (Oct. 30)—sponsor: Leinart Engineering Co.; Charleston, W. Va. (Oct. 31)—sponsor: Hiner Refrigeration Supply.

Freed Refrigeration Formed

LOS ANGELES—Freed Refrigeration Co. is the firm name under which Joseph Freed has published a certificate that he is conducting business at 5071 West Pico Blvd., Los Angeles.

Members of the Refrigeration Equipment Wholesalers Association

Your refrigeration parts and supply
house in Central New York and
Northern Pennsylvania

CENTRAL SERVICE SUPPLY

647 S. Warren Street, Syracuse, N. Y.
209-211 Jefferson Ave., Scranton, Pa.

Phone 5-4000 & 3-0313
Phone 3-4000

PRECISION-PERFORMANCE-PERMANENCE

Refrigeration products bearing the Larkin insignia may be depended upon to function flawlessly. Originator of the patented Cross Fin Coil, Larkin also instills the same exacting quality in Humi-Temp Forced Convection Units—Bare Tube and Zinc Fused Steel Plate Coils—Instantaneous Water Coolers—Air Conditioning Units—Evaporative Condensers—and other mechanical facilities for efficient commercial and industrial refrigeration.



LARKIN COILS

519 MEMORIAL DRIVE • S.E.
ATLANTA • GEORGIA

\$3 Million Worth of Surplus Fans Offered by WAA

PHILADELPHIA—Three million dollars worth of marine and industrial fans of almost every type are being offered this month by the Philadelphia office of the War Assets Administration in a sealed bid sale.

Inspection is permitted up to Oct. 31. Bids will be opened at 10 a.m. on that day.

Among the government surplus fans up for sale are more than 1,700 of the axial flow, ventilating type, with capacities ranging from 3,000 to 20,000 c.f.m. They were manufactured by B. F. Sturtevant, Buffalo Forge, Clarcage, and La Del Conveyor & Mfg. Co., and are announced as equipped with motors.

Others include 75 propeller-type ventilating fans manufactured by American Blower in 500 and 5,000

c.f.m. capacities, with motors, and two forced draft blowers manufactured by Terry Steam Turbine Co.

Most of the fans are unused and are in their original packing.

Details may be obtained from the Philadelphia Customer Service Center, 2401 Chestnut St., Philadelphia 3.

CORRECTION

Our attention has been called to an error in the final paragraph of the article "Henry Valve Issues First of New Bulletin Series on Product and Application Data" published on page 20 of the Sept. 15 issue.

This paragraph read:

"In introducing driers in the suction line it is important that the drier be designed for maximum pressure drop."

The paragraph should have read:

"In introducing driers in the suction line it is important that the drier be designed for minimum pressure drop."

ST. LOUIS—Kennard Corp., manufacturer of air conditioning equipment here, has announced the appointment of David S. Falk as its Michigan representative.

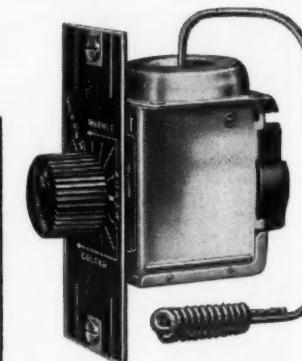
Mr. Falk will headquartered in Detroit at 3049 E. Grand Blvd.

✓ CHECK WITH Ranco FIRST

Specialists in Refrigeration	✓ Less Stock to Carry
More Ranco Controls in Use	Greater Customer Satisfaction
Dependability	More Profit For You

See your Ranco wholesaler today, or write direct to Ranco Inc. for full information.

Ranco Inc. COLUMBUS 1, OHIO



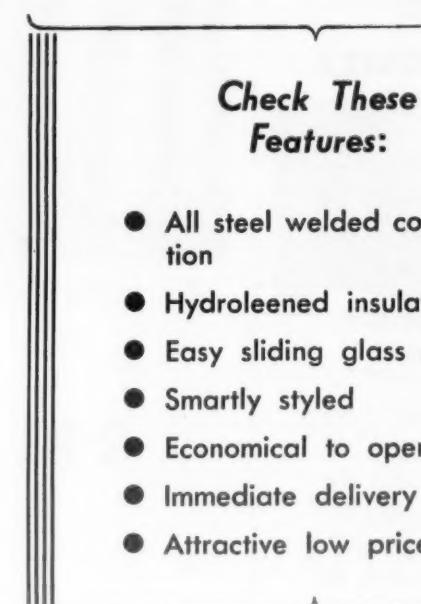
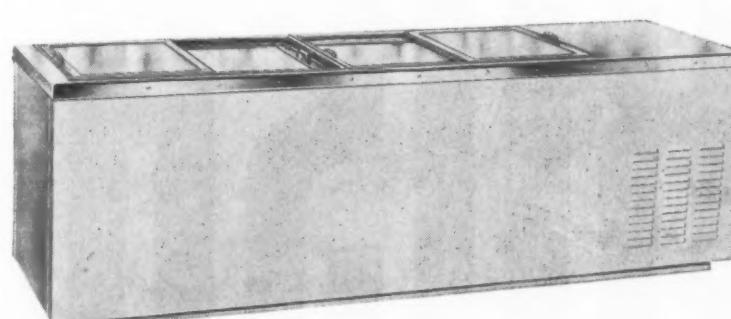
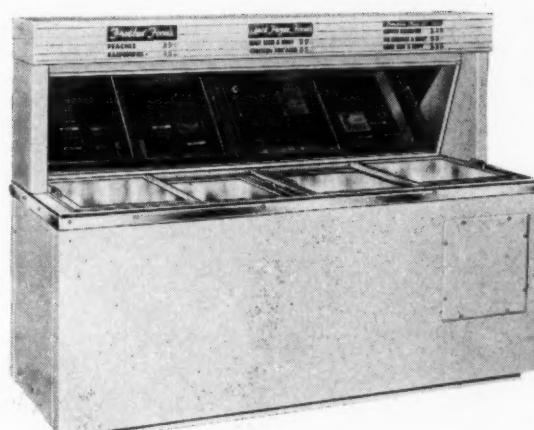
"Specialize" on Ranco Refrigeration Controls and cut your stock inventory to a minimum. Ranco Controls are designed to meet the greater number of installation requirements, providing you with a simple, efficient means of pleasing your customers and increasing your own profits. For 75% of your needs, you'll find the solution in either of two Ranco "All-Purpose" Controls. Ranco Refrigeration Controls are available at leading wholesalers throughout the country.

RANCO "All-Purpose" CONTROLS

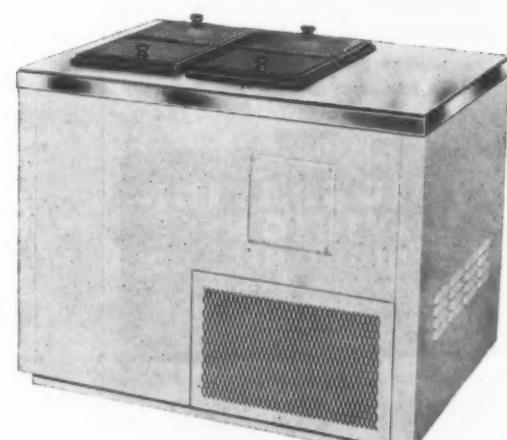
World's Largest Manufacturers of REFRIGERATION CONTROLS

The FRANKLIN LINE

Appearance
FOR Performance
Dependability



- All steel welded construction
- Hydroleened insulation
- Easy sliding glass doors
- Smartly styled
- Economical to operate
- Immediate delivery
- Attractive low prices



FRANKLIN REFRIGERATION CO.

Factory and National Sales Office

805 EAST 145 STREET

NEW YORK (55), N. Y.

Several Dealer
Franchises
Available



Manufacturers
FROZEN FOOD DISPLAY CABINETS • DAIRY CASES • BEVERAGE COOLERS • ICE CREAM CABINETS

G-E Appoints Matthes Marketing Head for Air Conditioning Dept.

BLOOMFIELD, N. J.—L. H. Matthes has been appointed manager of marketing for the air conditioning department of the General Electric Co. here, G. R. Prout, vice president and general manager of the department, has announced.

Mr. Matthes will be directly responsible to the vice president and will supervise all advertising and sales promotion, marketing services, and commercial engineering and sales for the department, which also embraces commercial refrigeration, Mr. Prout said.

Prior to his present appointment, Mr. Matthes was district manager in the Texas area for products of the G-E apparatus department.

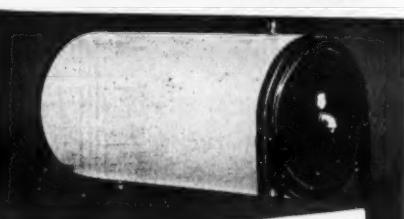
He had come to Texas in 1928 as manager of the apparatus department office in Beaumont. He was graduated in 1922 from the G-E test engineering course and then spent two years as a design engineer. At that time he was made a sales engineer in the company's West Virginia office.

Worthington Promotes Murray and Boteler

BUFFALO—The Worthington Pump & Machinery Corp. has announced the appointment of Edwin A. Murray and Howard Boteler as assistant managers of the Compressor Division here. Mr. Murray will be in charge of industrial and government compressor business and Mr. Boteler will be in charge of oil refinery and chemical compressor business.

Mr. Boteler has been with Worthington since 1923 and for the last 14 years has been associated with the Compressor Division. Mr. Murray joined the company's Compressor Division in 1935.

REMOTE WATER COOLERS



NORMAL SUCTION PRESSURE

For drinking water bubbler service, glass filler service, photographic developing, etc. Compact for floor, wall or ceiling installation. Capacities 6 to 25 gallons.

Also available now—cafeteria glass filler coolers, self-contained type bubbler coolers for offices, stores or factories. Write for latest data.



August Wholesaler Volume Under July

WASHINGTON, D. C.—A report from the Bureau of the Census showed that August was the fourth consecutive month in which sales by wholesalers of electrical goods declined from the previous month.

The August total was \$242,000,000, 6% less than the figure for July.

However, sales for August were 40% higher than those in August, 1946, and sales for the first eight months of this year were 87% above the total for the same period last year.

A 90% increase in inventories was registered in August, compared with the same month last year. But inventories were 3% less than those in

July, the first decrease over a previous month since early last year.

Declines in inventories (August compared with July) were also reported by full-line houses (down 3%), wiring supplies-construction materials (down 4%), and appliance wholesalers (down 2%).

Fire Hits Thermal Co. Branch In Great Falls

GREAT FALLS, Mont.—A Sunday fire destroyed the building occupied here by a branch outlet of the Thermal Co., Inc., parts and supplies wholesaler, announces H. W. Small, president of the firm which has headquarters in St. Paul.

The loss was completely covered by insurance, and the company expects to be operating in a new location shortly, added Mr. Small.

Dept. Store Sales Up 8% For Week Ending Oct. 11

WASHINGTON, D. C.—An 8% increase in national department store sales during the week ended Oct. 11, as compared with sales for the corresponding period last year, was reported by the Federal Reserve Board.

All districts but one showed gains ranging from 2 to 24%. Sales in the Dallas district declined 7%.

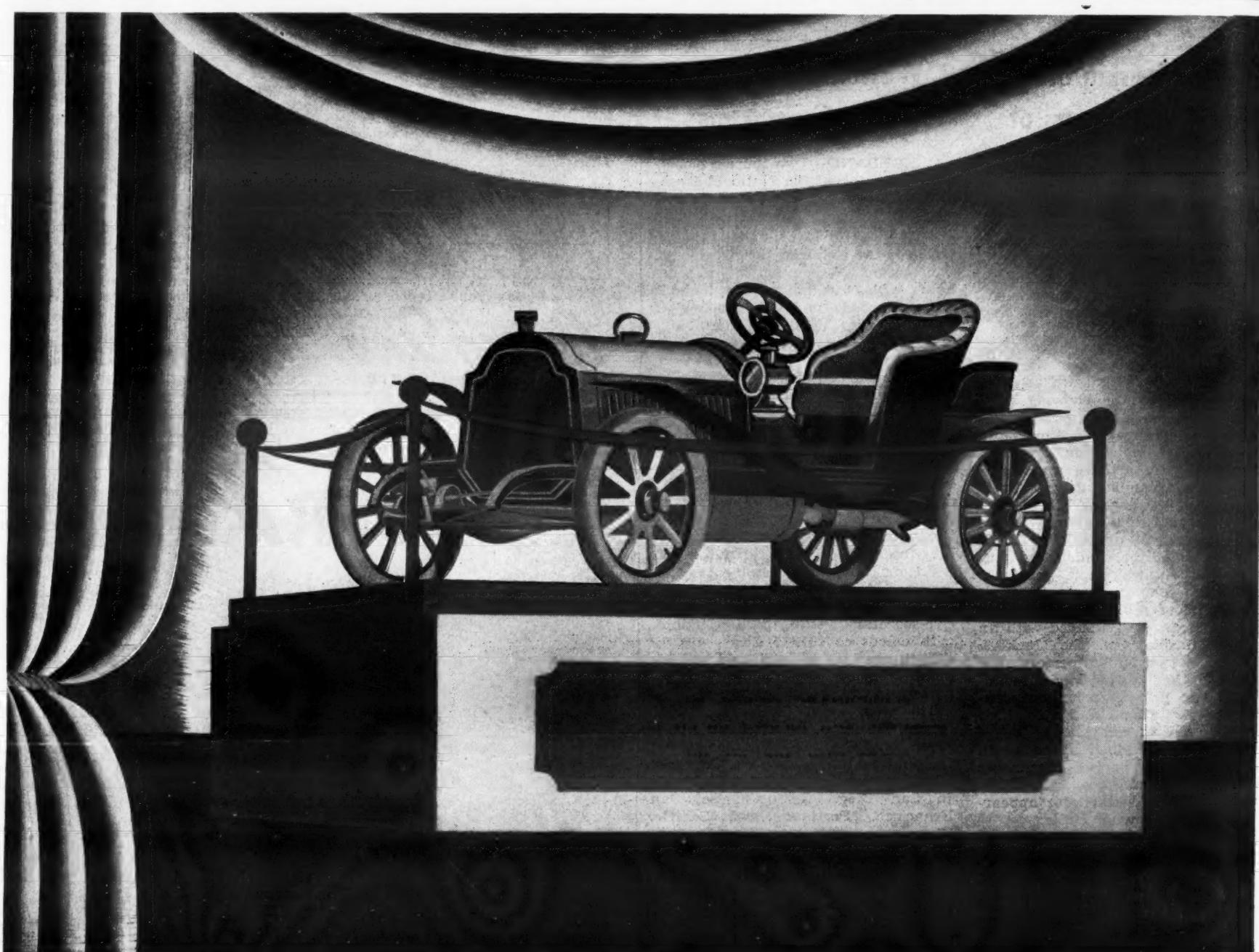
Increases were registered as follows: New York, 24%; Philadelphia, 15%; Boston, 9%; St. Louis, 7%; Chicago, Cleveland, and Richmond, 6%; Kansas City, 5%; and Atlanta and San Francisco, 2%. It was noted that in the case of the New York district, allowance should be made for the fact that there were work stoppages in the trucking industry.

New Victor Lines--

(Concluded from Page 1, Column 4)
Actual models were displayed.
J. K. Noel, Sr., president, welcomed
the distributors and J. K. Noel, Jr.,
outlined future plans.

Earl Bunting, a member of the board of directors, president of O'Sullivan Rubber Corp., and president of the National Association of Manufacturers, spoke at the sales luncheon. R. J. Funkhouser, chairman of the board, was the principal speaker at the banquet, held at Fountain Head Country Club.

On the last day, distributors toured O'Sullivan Farms, an experimental project owned and operated by Victor. Here, experimental units of all farm refrigeration equipment are tested in actual use prior to being manufactured.



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BUSH

OUR FORTIETH YEAR

Back in 1907, a refrigeration system consisted of a compressor and many feet of two-inch iron pipe. It was inefficient, costly, bulky.

But the 1907 automobiles had efficient cooling systems . . . finned-coil radiators with power-driven fans. And Bush, who was building these radiators, saw how the same principles could be applied to commercial refrigeration systems.

So Bush began building finned-coil evaporators and condensers. They adopted the automobile's power-driven fan to increase efficiency and reduce size.

Today . . . 40 years later . . . every modern refrigeration system employs the finned coil. And today Bush builds a substantial part of all low-side commercial refrigeration equipment.

Bush products are sold by leading refrigeration wholesalers everywhere.

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